ALABAMA

Science and Engineering Profile

	Alabama	U.S.	Rank		Alabama	U.S.	Rank
Doctoral scientists, 1993	4,402	430,332	28	Total R&D performance, 1993 (millions)	\$1,967	\$161,427	21
Doctoral engineers, 1993	1,228	81,293	20	Industry R&D, 1993 (millions)	\$833	\$117,622	25
S&E doctorates awarded, 1995	253	26,482	30	Academic R&D, 1994 (millions)	\$296	\$20,573	25
of which, in life sciences	39%	24%		of which, in life sciences	67%	55%	
in engineering	22%	23%		in engineering	17%	16%	
in psychology	12%	13%		in physical sciences	8%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	405	36,143	24	expenditures, 1993 (millions)	\$2,715	\$163,994	21
S&E graduate students, 1994				Number of SBIR awards, 1990-94	277	18,023	17
in doctorate-granting institutions	6,383	438,694	22	Patents issued to state residents, 1995	282	55,717	33
Population, 1995 (000s)	4,253	262,755	22	Gross state product, 1992 (billions)	\$78.1	\$5,994.1	24
Civilian labor force, 1995 (000s)	2,062	132,281	23	of which, agriculture	2%	2%	
, , ,				manufacturing, mining, construction	27%	23%	
Personal income per capita, 1995	\$18,781	\$22,788	42	transportation, communication, utilities	10%	9%	
				wholesale and retail trade	15%	16%	
Federal spending				finance, insurance, real estate	14%	18%	
Total expenditures, 1995 (millions)	\$22,719	\$1,326,294	19	services	16%	20%	
R&D obligations, 1994 (millions)	\$1,818	\$65,654	13	government	16%	12%	
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Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Alabama by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,818,354	775,544	0	833,531	181,735	23,463	4,081	13
Department of Agriculture	16,133	4,637	0	0	11,388	0	108	30
Department of Commerce	1,034	558	0	15	421	0	40	35
Department of Defense	844,263	435,053	0	387,600	20,107	1,503	0	13
Department of Energy	19,575	0	0	17,000	2,575	0	0	26
Dept. of Health & Human Services	132,044	0	0	1,474	111,047	18,928	595	21
Department of the Interior	8,837	7,117	0	535	1,185	0	0	21
Department of Transportation	3,416	1,231	0	737	159	0	1,289	30
Environmental Protection Agency	5,810	0	0	3,366	420	0	2,024	17
Nat'l Aeronautics & Space Admin.	776,532	326,948	0	422,674	23,973	2,912	25	4
National Science Foundation	10,710	0	0	130	10,460	120	0	34
State rank	13	5	na	10	20	19	18	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

ALASKA

Science and Engineering Profile

	Alaska	U.S.	Rank		Alaska	U.S.	Rank
Doctoral scientists, 1993	1,086	430,332	49	Total R&D performance, 1993 (millions)	\$130	\$161,427	46
Doctoral engineers, 1993	97	81,293	50	Industry R&D, 1993 (millions)	\$14	\$117,622	49
S&E doctorates awarded, 1995	19	26,482	50	Academic R&D, 1994 (millions)	\$76	\$20,573	41
of which, in life sciences	37%	24%		of which, in environmental sciences	47%	7%	
in environmental sciences	21%	3%		in life sciences	24%	55%	
in engineering	11%	23%		in physical sciences	20%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	4	36,143	51	expenditures, 1993 (millions)	\$345	\$163,994	49
S&E graduate students, 1994				Number of SBIR awards, 1990-94	3	18,023	49
in doctorate-granting institutions	627	438,694	51	Patents issued to state residents, 1995	39	55,717	50
Population, 1995 (000s)	604	262,755	48	Gross state product, 1992 (billions)	\$26.0	\$5,994.1	41
Civilian labor force, 1995 (000s)	302	132,281	49	of which, agriculture	2%	2%	
. ,				manufacturing, mining, construction	38%	23%	
Personal income per capita, 1995	\$24,182	\$22,788	11	transportation, communication, utilities	13%	9%	
				wholesale and retail trade	8%	16%	
Federal spending				finance, insurance, real estate	13%	18%	
Total expenditures, 1995 (millions)	\$4,198	\$1,326,294	46	services	10%	20%	
R&D obligations, 1994 (millions)	\$157	\$65,654	38	government	17%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Alaska by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	157,317	64,966	0	47,962	42,593	199	1,597	38
Department of Agriculture	7,768	6,026	0	0	1,742	0	0	40
Department of Commerce	32,457	30,353	0	0	1,962	0	142	9
Department of Defense	15,626	4,437	0	646	10,543	0	0	41
Department of Energy	47,178	0	0	46,705	473	0	0	20
Dept. of Health & Human Services	2,911	605	0	0	1,747	199	360	49
Department of the Interior	26,240	23,545	0	611	2,084	0	0	5
Department of Transportation	1,145	0	0	0	50	0	1,095	43
Environmental Protection Agency	0	0	0	0	0	0	0	na
Nat'l Aeronautics & Space Admin.	12,664	0	0	0	12,664	0	0	28
National Science Foundation	11,328	0	0	0	11,328	0	0	32
State rank	38	27	na	32	38	51	40	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

ARIZONA

Science and Engineering Profile

	Arizona	U.S.	Rank		Arizona	U.S.	Rank
Doctoral scientists, 1993	4,849	430,332	27	Total R&D performance, 1993 (millions)	\$1,608	\$161,427	24
Doctoral engineers, 1993	1,323	81,293	18	Industry R&D, 1993 (millions)	\$1,042	\$117,622	22
S&E doctorates awarded, 1995	455	26,482	20	Academic R&D, 1994 (millions)	\$343	\$20,573	20
of which, in engineering	24%	23%		of which, in life sciences	38%	55%	
in life sciences	20%	24%		in physical sciences	32%	10%	
in physical sciences	16%	14%		in engineering	12%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
· '	400	26.442	25	, and the second	¢4 700	¢462.004	30
in doctorate-granting institutions	400	36,143	25	expenditures, 1993 (millions)	\$1,728	\$163,994	30
S&E graduate students, 1994				Number of SBIR awards, 1990-94	266	18,023	19
in doctorate-granting institutions	7,661	438,694	19	Patents issued to state residents, 1995	999	55,717	18
Population, 1995 (000s)	4,218	262,755	23	Gross state product, 1992 (billions)	\$74.1	\$5,994.1	26
Civilian labor force, 1995 (000s)	2,120	132,281	21	of which, agriculture	2%	2%	
Civilian labor lords, 1888 (8888)	2,120	102,201	-	manufacturing, mining, construction	19%	23%	
Personal income per capita, 1995	\$20,421	\$22,788	36	transportation, communication, utilities	8%	9%	
·				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	18%	18%	
Total expenditures, 1995 (millions)	\$20,705	\$1,326,294	22	services	21%	20%	
R&D obligations, 1994 (millions)	\$795	\$65,654	19	government	15%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Arizona by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	795,129	165,033	28,271	423,935	165,392	9,555	2,943	19
Department of Agriculture	20,065	13,830	0	0	6,235	0	0	25
Department of Commerce	1,064	0	0	5	470	0	589	34
Department of Defense	559,383	137,287	0	407,166	14,930	0	0	17
Department of Energy	5,854	0	0	400	5,454	0	0	39
Dept. of Health & Human Services	72,564	1,850	0	2,287	59,661	7,791	975	27
Department of the Interior	11,268	8,193	0	1,652	1,273	0	150	18
Department of Transportation	2,855	0	0	517	1,309	0	1,029	32
Environmental Protection Agency	729	0	0	89	640	0	0	37
Nat'l Aeronautics & Space Admin.	66,234	3,873	0	11,219	49,804	1,138	200	12
National Science Foundation	55,113	0	28,271	600	25,616	626	0	10
State rank	19	16	15	16	23	28	26	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

ARKANSAS

Science and Engineering Profile

	Arkansas	U.S.	Rank		Arkansas	U.S.	Rank
Doctoral scientists, 1993	1,795	430,332	43	Total R&D performance, 1993 (millions)	\$301	\$161,427	42
Doctoral engineers, 1993	199	81,293	46	Industry R&D, 1993 (millions)	\$185	\$117,622	39
S&E doctorates awarded, 1995	69	26,482	42	Academic R&D, 1994 (millions)	\$81	\$20,573	40
of which, in life sciences	48%	24%		of which, in life sciences	74%	55%	
in engineering	20%	23%		in engineering	13%	16%	
in physical sciences	20%	14%		in physical sciences	5%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	84	36,143	40	expenditures, 1993 (millions)	\$1,101	\$163,994	37
S&E graduate students, 1994				Number of SBIR awards, 1990-94	14	18,023	45
in doctorate-granting institutions	1,589	438,694	42	Patents issued to state residents, 1995	106	55,717	44
Population, 1995 (000s)	2,484	262,755	33	Gross state product, 1992 (billions)	\$44.0	\$5,994.1	32
Civilian labor force, 1995 (000s)	1,223	132,281	33	of which, agriculture	5%	2%	
, ,				manufacturing, mining, construction	28%	23%	
Personal income per capita, 1995	\$17,429	\$22,788	50	transportation, communication, utilities	11%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	14%	18%	
Total expenditures, 1995 (millions)	\$11,754	\$1,326,294	35	services	14%	20%	
R&D obligations, 1994 (millions)	\$89	\$65,654	41	government	12%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Arkansas by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	88,868	44,675	0	2,811	36,482	3,572	1,328	41
Department of Agriculture	15,434	4,985	0	15	10,408	0	26	33
Department of Commerce	0	0	0	0	0	0	0	na
Department of Defense	5,248	119	0	482	4,647	0	0	47
Department of Energy	304	0	0	0	304	0	0	50
Dept. of Health & Human Services	55,186	35,548	0	1,141	16,236	1,798	463	30
Department of the Interior	5,194	3,721	0	0	193	1,280	0	31
Department of Transportation	1,252	302	0	91	20	0	839	40
Environmental Protection Agency	1,180	0	0	1,017	163	0	0	32
Nat'l Aeronautics & Space Admin.	1,234	0	0	0	740	494	0	44
National Science Foundation	3,836	0	0	65	3,771	0	0	48
State rank	41	34	na	49	41	39	44	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

CALIFORNIA

Science and Engineering Profile

	California	U.S.	Rank		California	U.S.	Rank
Doctoral scientists, 1993	54,713	430,332	1	Total R&D performance, 1993 (millions)	\$33,721	\$161,427	1
Doctoral engineers, 1993	13,424	81,293	1	Industry R&D, 1993 (millions)	\$26,541	\$117,622	1
S&E doctorates awarded, 1995	3,653	26,482	1	Academic R&D, 1994 (millions)	\$2,464	\$20,573	1
of which, in engineering	22%	23%		of which, in life sciences	58%	55%	
in life sciences	19%	24%		in engineering	13%	16%	
in psychology	19%	13%		in physical sciences	12%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	6,248	36,143	1	expenditures, 1993 (millions)	\$19,709	\$163,994	1
S&E graduate students, 1994				Number of SBIR awards, 1990-94	4,175	18,023	1
in doctorate-granting institutions	44,778	438,694	1	Patents issued to state residents, 1995	9,263	55,717	1
Population, 1995 (000s)	31,589	262,755	1	Gross state product, 1992 (billions)	\$787.9	\$5,994.1	1
Civilian labor force, 1995 (000s)	15,415	132,281	1	of which, agriculture	2%	2%	
, , ,				manufacturing, mining, construction	19%	23%	
Personal income per capita, 1995	\$23,699	\$22,788	13	transportation, communication, utilities	7%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	21%	18%	
Total expenditures, 1995 (millions)	\$152,534	\$1,326,294	1	services	23%	20%	
R&D obligations, 1994 (millions)	\$11,280	\$65,654	1	government	12%	12%	
				-			

Rankings and totals are based on data for the 50 States and D.C. Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in California by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	11,279,888	1,400,726	1,791,580	6,046,504	1,659,223	354,290	27,565	1
Department of Agriculture	79,673	56,659	0	320	22,219	475	0	3
Department of Commerce	36,871	15,534	285	10,406	10,435	63	148	7
Department of Defense	6,597,594	1,216,765	222,094	4,845,100	272,854	40,781	0	1
Department of Energy	1,012,937	15,397	778,438	114,309	88,150	16,643	0	2
Dept. of Health & Human Services	1,210,119	1,191	25,379	41,992	868,164	261,351	12,042	2
Department of the Interior	49,720	42,174	140	1,224	5,775	42	365	3
Department of Transportation	31,395	7,923	111	7,797	1,345	800	13,419	6
Environmental Protection Agency	15,035	0	0	9,050	4,717	0	1,268	7
Nat'l Aeronautics & Space Admin.	1,962,011	45,083	764,789	983,870	151,572	16,622	75	1
National Science Foundation	284,533	0	344	32,436	233,992	17,513	248	1
State rank	1	3	1	1	1	2	2	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

COLORADO

Science and Engineering Profile

	Colorado	U.S.	Rank		Colorado	U.S.	Rank
Doctoral scientists, 1993	8,558	430,332	16	Total R&D performance, 1993 (millions)	\$2,864	\$161,427	15
Doctoral engineers, 1993	1,683	81,293	15	Industry R&D, 1993 (millions)	\$2,111	\$117,622	15
S&E doctorates awarded, 1995	530	26,482	16	Academic R&D, 1994 (millions)	\$361	\$20,573	19
of which, in engineering	27%	23%		of which, in life sciences	47%	55%	
in life sciences	24%	24%		in engineering	15%	16%	
in social sciences	12%	15%		in environmental sciences	13%	7%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	757	36,143	14	expenditures, 1993 (millions)	\$1,978	\$163,994	27
S&E graduate students, 1994				Number of SBIR awards, 1990-94	667	18,023	6
in doctorate-granting institutions	9,155	438,694	16	Patents issued to state residents, 1995	1,097	55,717	15
Population, 1995 (000s)	3,747	262,755	25	Gross state product, 1992 (billions)	\$82.5	\$5,994.1	23
Civilian labor force, 1995 (000s)	2,089	132,281	22	of which, agriculture	2%	2%	
, ,				manufacturing, mining, construction	19%	23%	
Personal income per capita, 1995	\$23,449	\$22,788	17	transportation, communication, utilities	10%	9%	
				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	17%	18%	
Total expenditures, 1995 (millions)	\$19,196	\$1,326,294	25	services	21%	20%	
R&D obligations, 1994 (millions)	\$1,353	\$65,654	16	government	14%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Colorado by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,353,410	196,169	144,546	726,547	232,097	48,304	5,747	16
Department of Agriculture	30,478	23,049	0	216	7,213	0	0	17
Department of Commerce	82,540	75,983	0	48	6,509	0	0	2
Department of Defense	687,688	36,828	4,570	623,184	21,940	1,166	0	15
Department of Energy	128,956	3,316	81,058	35,334	8,465	783	0	11
Dept. of Health & Human Services	163,720	10	0	1,930	120,932	36,117	4,731	17
Department of the Interior	53,753	50,895	0	487	2,039	332	0	2
Department of Transportation	8,410	206	0	2,592	689	3,907	1,016	17
Environmental Protection Agency	1,707	0	0	880	827	0	0	29
Nat'l Aeronautics & Space Admin.	92,923	5,402	2,429	59,312	20,891	4,889	0	11
National Science Foundation	103,235	480	56,489	2,564	42,592	1,110	0	6
State rank	16	15	8	12	16	12	11	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

CONNECTICUT

Science and Engineering Profile

	Connecticut	U.S.	Rank		Connecticut	U.S.	Rank
Doctoral scientists, 1993	7,131	430,332	21	Total R&D performance, 1993 (millions)	\$2,809	\$161,427	16
Doctoral engineers, 1993	1,155	81,293	22	Industry R&D, 1993 (millions)	\$2,373	\$117,622	13
S&E doctorates awarded, 1995	407	26,482	23	Academic R&D, 1994 (millions)	\$372	\$20,573	18
of which, in life sciences	29%	24%		of which, in life sciences	71%	55%	
in social sciences	22%	15%		in engineering	10%	16%	
in physical sciences	19%	14%		in physical sciences	7%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	1,049	36,143	10	expenditures, 1993 (millions)	\$2,419	\$163,994	25
S&E graduate students, 1994				Number of SBIR awards, 1990-94	601	18,023	7
in doctorate-granting institutions	4,971	438,694	28	Patents issued to state residents, 1995	1,544	55,717	12
Population, 1995 (000s)	3,275	262,755	28	Gross state product, 1992 (billions)	\$98.9	\$5,994.1	21
Civilian labor force, 1995 (000s)	1,709	132,281	27	of which, agriculture	1%	2%	
. ,				manufacturing, mining, construction	23%	23%	
Personal income per capita, 1995	\$30,303	\$22,788	2	transportation, communication, utilities	7%	9%	
, ,				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	24%	18%	
Total expenditures, 1995 (millions)	\$17,498	\$1,326,294	28	services	21%	20%	
R&D obligations, 1994 (millions)	\$734	\$65,654	21	government	9%	12%	
	1 ' '	' ' '	1 - 1		1		

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:control}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Connecticut by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	733,512	43,055	0	429,026	238,359	17,587	5,485	22
Department of Agriculture	5,681	1,980	0	0	2,604	0	1,097	46
Department of Commerce	3,134	0	0	48	3,030	0	56	24
Department of Defense	398,476	29,969	0	349,562	18,945	0	0	18
Department of Energy	54,557	0	0	45,109	9,448	0	0	19
Dept. of Health & Human Services	207,362	10	0	3,203	184,682	16,889	2,578	14
Department of the Interior	1,436	1,138	0	198	100	0	0	49
Department of Transportation	16,681	9,958	0	4,726	326	0	1,671	8
Environmental Protection Agency	1,716	0	0	1,148	568	0	0	28
Nat'l Aeronautics & Space Admin.	25,256	0	0	23,762	1,402	92	0	20
National Science Foundation	19,213	0	0	1,270	17,254	606	83	24
State rank	22	35	na	15	15	22	12	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

DELAWARE

Science and Engineering Profile

	Delaware	U.S.	Rank		Delaware	U.S.	Rank
Doctoral scientists, 1993	3,466	430,332	34	Total R&D performance, 1993 (millions)	\$1,247	\$161,427	26
Doctoral engineers, 1993	686	81,293	32	Industry R&D, 1993 (millions)	\$1,181	\$117,622	20
S&E doctorates awarded, 1995	100	26,482	39	Academic R&D, 1994 (millions)	\$51	\$20,573	48
of which, in engineering	31%	23%		of which, in engineering	29%	16%	
in psychology	15%	13%		in life sciences	24%	55%	
in physical sciences	14%	14%		in physical sciences	18%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	85	36,143	39	expenditures, 1993 (millions)	\$446	\$163,994	46
S&E graduate students, 1994				Number of SBIR awards, 1990-94	58	18,023	31
in doctorate-granting institutions	1,760	438,694	40	Patents issued to state residents, 1995	427	55,717	28
Population, 1995 (000s)	717	262,755	46	Gross state product, 1992 (billions)	\$23.7	\$5,994.1	44
Civilian labor force, 1995 (000s)	381	132,281	46	of which, agriculture	1%	2%	
, ,				manufacturing, mining, construction	24%	23%	
Personal income per capita, 1995	\$24,124	\$22,788	12	transportation, communication, utilities	5%	9%	
				wholesale and retail trade	9%	16%	
Federal spending				finance, insurance, real estate	39%	18%	
Total expenditures, 1995 (millions)	\$3,272	\$1,326,294	49	services	13%	20%	
R&D obligations, 1994 (millions)	\$50	\$65,654	47	government	8%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition} % \begin{subarray}{ll} \end{subarray} % \begin{subarr$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Delaware by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	50,441	9,326	0	9,532	27,036	4,019	528	47
Department of Agriculture	3,810	1,583	0	50	2,177	0	0	49
Department of Commerce	3,307	1,112	0	1,186	964	0	45	22
Department of Defense	16,446	2,759	0	4,492	9,195	0	0	40
Department of Energy	1,586	0	0	283	937	366	0	46
Dept. of Health & Human Services	6,871	0	0	883	4,622	1,234	132	46
Department of the Interior	759	634	0	0	125	0	0	51
Department of Transportation	5,103	3,238	0	1,462	52	0	351	24
Environmental Protection Agency	1,242	0	0	325	917	0	0	31
Nat'l Aeronautics & Space Admin.	2,954	0	0	786	646	1,522	0	38
National Science Foundation	8,363	0	0	65	7,401	897	0	40
State rank	47	47	na	45	44	38	51	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

DISTRICT OF COLUMBIA

Science and Engineering Profile

	D.C.	U.S.	Rank		D.C.	U.S.	Rank
Doctoral scientists, 1993	12,763	430,332	11	Total R&D performance, 1993 (millions)	\$2,543	\$161,427	20
Doctoral engineers, 1993	1,068	81,293	24	Industry R&D, 1993 (millions)	\$540	\$117,622	27
S&E doctorates awarded, 1995	283	26,482	27	Academic R&D, 1994 (millions)	\$152	\$20,573	33
of which, in social sciences	37%	15%		of which, in life sciences	66%	55%	
in life sciences	19%	24%		in physical sciences	10%	10%	
in psychology	16%	13%		in social sciences	9%	4%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	172	36,143	32	expenditures, 1993 (millions)	\$2,427	\$163,994	24
S&E graduate students, 1994				Number of SBIR awards, 1990-94	51	18,023	33
in doctorate-granting institutions	9,728	438,694	13	Patents issued to state residents, 1995	57	55,717	48
Population, 1995 (000s)	554	262,755	50	Gross state product, 1992 (billions)	\$40.4	\$5,994.1	34
Civilian labor force, 1995 (000s)	283	132,281	50	of which, agriculture	0%	2%	
,				manufacturing, mining, construction	4%	23%	
Personal income per capita, 1995	\$32,274	\$22,788	1 1	transportation, communication, utilities	6%	9%	
				wholesale and retail trade	5%	16%	
Federal spending				finance, insurance, real estate	12%	18%	
Total expenditures, 1995 (millions)	\$21,776	\$1,326,294	21	services	34%	20%	
R&D obligations, 1994 (millions)	\$2,475	\$65,654	9	government	39%	12%	

Rankings and totals are based on data for the 50 States and D.C. Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in District of Columbia by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,474,777	1,677,506	0	350,316	157,675	285,509	3,771	9
Department of Agriculture	163,363	156,192	0	6,208	792	133	38	1
Department of Commerce	8,896	8,389	0	15	413	79	0	15
Department of Defense	954,963	737,118	0	135,022	56,107	26,716	0	9
Department of Energy	325,620	280,999	0	36,856	2,920	4,845	0	7
Dept. of Health & Human Services	216,072	81,703	0	10,638	71,680	50,951	1,100	13
Department of the Interior	25,740	23,956	0	1,257	124	403	0	6
Department of Transportation	133,055	68,460	0	49,087	3,248	11,823	437	1
Environmental Protection Agency	155,680	23,253	0	14,519	226	115,566	2,116	1
Nat'l Aeronautics & Space Admin.	420,810	288,454	0	95,187	7,128	29,961	80	8
National Science Foundation	70,578	8,982	0	1,527	15,037	45,032	0	8
State rank	9	2	na	17	25	3	20	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

FLORIDA

Science and Engineering Profile

	Florida	U.S.	Rank		Florida	U.S.	Rank
Doctoral scientists, 1993	11,809	430,332	13	Total R&D performance, 1993 (millions)	\$3,526	\$161,427	12
Doctoral engineers, 1993	2,339	81,293	12	Industry R&D, 1993 (millions)	\$2,425	\$117,622	12
S&E doctorates awarded, 1995	670	26,482	11	Academic R&D, 1994 (millions)	\$549	\$20,573	12
of which, in engineering	21%	23%		of which, in life sciences	51%	55%	
in psychology	20%	13%		in physical sciences	14%	10%	
in life sciences	20%	24%		in engineering	13%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	558	36,143	20	expenditures, 1993 (millions)	\$4,690	\$163,994	10
S&E graduate students, 1994				Number of SBIR awards, 1990-94	376	18,023	12
in doctorate-granting institutions	18,220	438,694	8	Patents issued to state residents, 1995	2,002	55,717	10
 Population, 1995 (000s)	14,166	262,755	4	Gross state product, 1992 (billions)	\$268.6	\$5,994.1	5
Civilian labor force, 1995 (000s)	6,830	132,281	4	of which, agriculture	2%	2%	
				manufacturing, mining, construction	13%	23%	
Personal income per capita, 1995	\$22,916	\$22,788	21	transportation, communication, utilities	10%	9%	
				wholesale and retail trade	18%	16%	
Federal spending				finance, insurance, real estate	20%	18%	
Total expenditures, 1995 (millions)	\$74,992	\$1,326,294	4	services	23%	20%	
R&D obligations, 1994 (millions)	\$2,906	\$65,654	7	government	13%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Florida by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,906,333	585,886	0	2,047,291	263,964	4,421	4,771	7
Department of Agriculture	34,000	21,896	0	0	11,974	130	0	14
Department of Commerce	40,022	32,835	0	3,732	3,319	0	136	5
Department of Defense	2,122,465	294,791	0	1,781,797	45,742	135	0	5
Department of Energy	71,844	0	0	54,712	17,128	4	0	18
Dept. of Health & Human Services	128,971	0	0	5,219	119,668	2,460	1,624	22
Department of the Interior	11,898	10,925	0	79	894	0	0	17
Department of Transportation	6,058	175	0	2,736	514	0	2,633	19
Environmental Protection Agency	12,277	4,007	0	7,280	864	0	126	10
Nat'l Aeronautics & Space Admin.	429,133	221,257	0	191,131	16,068	425	252	7
National Science Foundation	49,665	0	0	605	47,793	1,267	0	12
State rank	7	7	na	4	12	37	13	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

GEORGIA

Science and Engineering Profile

	Georgia	U.S.	Rank		Georgia	U.S.	Rank
Doctoral scientists, 1993	7,950	430,332	17	Total R&D performance, 1993 (millions)	\$1,577	\$161,427	25
Doctoral engineers, 1993	917	81,293	27	Industry R&D, 1993 (millions)	\$860	\$117,622	24
S&E doctorates awarded, 1995	496	26,482	17	Academic R&D, 1994 (millions)	\$606	\$20,573	11
of which, in life sciences	25%	24%		of which, in life sciences	50%	55%	
in engineering	24%	23%		in engineering	24%	16%	
in psychology	17%	13%		in physical sciences	8%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	490	36,143	23	expenditures, 1993 (millions)	\$3,742	\$163,994	13
S&E graduate students, 1994				Number of SBIR awards, 1990-94	133	18,023	25
in doctorate-granting institutions	9,173	438,694	15	Patents issued to state residents, 1995	847	55,717	20
Population, 1995 (000s)	7,201	262.755	10	Gross state product, 1992 (billions)	\$153.5	\$5,994.1	12
Civilian labor force, 1995 (000s)	3,618	132,281	11	of which, agriculture	2%	2%	
. , ,				manufacturing, mining, construction	22%	23%	
Personal income per capita, 1995	\$21,278	\$22,788	29	transportation, communication, utilities	11%	9%	
·				wholesale and retail trade	18%	16%	
Federal spending				finance, insurance, real estate	16%	18%	
Total expenditures, 1995 (millions)	\$33,121	\$1,326,294	13	services	17%	20%	
R&D obligations, 1994 (millions)	\$5,544	\$65,654	3	government	13%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition} % \begin{subarray}{ll} \end{subarray} % \begin{subarr$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Georgia by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	5,544,354	222,335	0	5,048,945	238,575	30,610	3,889	3
Department of Agriculture	51,741	39,287	0	0	12,309	0	145	5
Department of Commerce	2,153	458	0	718	977	0	0	31
Department of Defense	5,122,137	19,244	0	5,032,999	44,655	25,239	0	2
Department of Energy	17,227	0	0	423	14,547	2,257	0	28
Dept. of Health & Human Services	261,755	141,010	0	1,270	116,460	2,232	783	9
Department of the Interior	6,441	5,821	0	95	525	0	0	25
Department of Transportation	14,913	125	0	2,396	10,121	242	2,029	9
Environmental Protection Agency	17,638	4,617	0	4,423	8,558	0	40	6
Nat'l Aeronautics & Space Admin.	25,169	11,773	0	5,697	7,059	640	0	21
National Science Foundation	25,180	0	0	924	23,364	0	892	23
State rank	3	14	na	2	14	17	19	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

HAWAII

Science and Engineering Profile

	Hawaii	U.S.	Rank		Hawaii	U.S.	Rank
Doctoral scientists, 1993	2,362	430,332	38	Total R&D performance, 1993 (millions)	\$380	\$161,427	39
Doctoral engineers, 1993	209	81,293	44	Industry R&D, 1993 (millions)	\$255	\$117,622	37
S&E doctorates awarded, 1995	125	26,482	38	Academic R&D, 1994 (millions)	\$70	\$20,573	42
of which, in social sciences	39%	15%		of which, in life sciences	42%	55%	
in life sciences	30%	24%		in physical sciences	29%	10%	
in environmental sciences	10%	3%		in environmental sciences	12%	7%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	59	36,143	42	expenditures, 1993 (millions)	\$693	\$163,994	41
S&E graduate students, 1994				Number of SBIR awards, 1990-94	69	18.023	29
in doctorate-granting institutions	2,326	438,694	37	Patents issued to state residents, 1995	66	55,717	46
Population, 1995 (000s)	1,187	262,755	40	Gross state product, 1992 (billions)	\$33.2	\$5,994.1	38
Civilian labor force, 1995 (000s)	580	132,281	42	of which, agriculture	1%	2%	
, , ,				manufacturing, mining, construction	10%	23%	
Personal income per capita, 1995	\$24,738	\$22,788	10	transportation, communication, utilities	10%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	19%	18%	
Total expenditures, 1995 (millions)	\$7,529	\$1,326,294	39	services	23%	20%	
R&D obligations, 1994 (millions)	\$140	\$65,654	40	government	20%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Hawaii by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	140,305	61,156	0	11,210	55,606	11,375	958	40
Department of Agriculture	20,612	9,796	0	0	5,357	5,459	0	23
Department of Commerce	13,138	8,413	0	194	4,452	0	79	14
Department of Defense	47,042	32,517	0	9,698	4,827	0	0	31
Department of Energy	2,706	0	0	0	2,656	50	0	44
Dept. of Health & Human Services	24,277	0	0	675	17,526	5,800	276	40
Department of the Interior	10,920	10,380	0	0	540	0	0	19
Department of Transportation	752	0	0	0	149	0	603	46
Environmental Protection Agency	0	0	0	0	0	0	0	na
Nat'l Aeronautics & Space Admin.	6,987	50	0	160	6,777	0	0	32
National Science Foundation	13,871	0	0	483	13,322	66	0	29
State rank	40	28	na	42	35	26	47	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

IDAHO

Science and Engineering Profile

	ldaho	U.S.	Rank		Idaho	U.S.	Rank
Doctoral scientists, 1993	1,800	430,332	42	Total R&D performance, 1993 (millions)	\$477	\$161,427	34
Doctoral engineers, 1993	403	81,293	36	Industry R&D, 1993 (millions)	\$391	\$117,622	32
S&E doctorates awarded, 1995	57	26,482	43	Academic R&D, 1994 (millions)	\$55	\$20,573	45
of which, in life sciences	56%	24%	73	of which, in life sciences	69%	55%	73
in math & computer sciences	14%	8%		in engineering	14%	16%	
· '				ŭ ŭ	7%	1	
in engineering	12%	23%		in physical sciences	1%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	49	36,143	44	expenditures, 1993 (millions)	\$497	\$163,994	44
S&E graduate students, 1994				Number of SBIR awards, 1990-94	21	18,023	43
in doctorate-granting institutions	1,746	438,694	41	Patents issued to state residents, 1995	305	55,717	32
 Population, 1995 (000s)	1.163	262,755	41	Gross state product, 1992 (billions)	\$20.9	\$5,994.1	46
Civilian labor force, 1995 (000s)	598	132,281	41	of which, agriculture	8%	2%	
, , ,				manufacturing, mining, construction	23%	23%	
Personal income per capita, 1995	\$19,264	\$22,788	39	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	17%	18%	
Total expenditures, 1995 (millions)	\$5,320	\$1,326,294	43	services	15%	20%	
R&D obligations, 1994 (millions)	\$228	\$65,654	32	government	13%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Idaho by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	227,773	29,373	73,879	105,070	17,980	323	1,148	32
Department of Agriculture	18,141	13,054	0	0	4,989	91	7	27
Department of Commerce	507	471	0	0	36	0	0	38
Department of Defense	12,186	4,150	3,899	3,185	952	0	0	44
Department of Energy	171,393	1,315	68,533	101,110	260	0	175	9
Dept. of Health & Human Services	1,780	0	0	369	795	230	386	50
Department of the Interior	12,232	9,589	1,447	66	1,128	2	0	16
Department of Transportation	5,774	550	0	0	4,644	0	580	21
Environmental Protection Agency	585	0	0	0	585	0	0	38
Nat'l Aeronautics & Space Admin.	393	244	0	0	149	0	0	49
National Science Foundation	4,782	0	0	340	4,442	0	0	47
State rank	32	41	12	27	48	49	45	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

ILLINOIS

Science and Engineering Profile

	Illinois	U.S.	Rank		Illinois	U.S.	Rank
Doctoral scientists, 1993	17,727	430,332	7	Total R&D performance, 1993 (millions)	\$6,768	\$161,427	9
Doctoral engineers, 1993	2,957	81,293	8	Industry R&D, 1993 (millions)	\$5,242	\$117,622	7
S&E doctorates awarded, 1995	1,412	26,482	5	Academic R&D, 1994 (millions)	\$803	\$20,573	7
of which, in engineering	21%	23%		of which, in life sciences	50%	55%	
in life sciences	21%	24%		in physical sciences	12%	10%	
in social sciences	18%	15%		in engineering	11%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	1,176	36,143	8	expenditures, 1993 (millions)	\$8,572	\$163,994	5
S&E graduate students, 1994				Number of SBIR awards, 1990-94	280	18,023	16
in doctorate-granting institutions	21,737	438,694	6	Patents issued to state residents, 1995	2,874	55,717	4
Population, 1995 (000s)	11,830	262,755	6	Gross state product, 1992 (billions)	\$294.4	\$5,994.1	4
Civilian labor force, 1995 (000s)	6,083	132,281	5	of which, agriculture	2%	2%	
				manufacturing, mining, construction	23%	23%	
Personal income per capita, 1995	\$24,763	\$22,788	9	transportation, communication, utilities	10%	9%	
				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	19%	18%	
Total expenditures, 1995 (millions)	\$50,934	\$1,326,294	7	services	20%	20%	
R&D obligations, 1994 (millions)	\$1,080	\$65,654	17	government	10%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Illinois by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,079,973	85,416	436,956	85,475	423,291	42,810	6,025	17
Department of Agriculture	44,950	33,219	0	80	11,471	145	35	7
Department of Commerce	4,203	365	0	2,581	761	0	496	21
Department of Defense	159,694	46,240	4,359	59,051	49,533	511	0	25
Department of Energy	467,668	1,862	430,396	11,768	21,027	1,615	1,000	4
Dept. of Health & Human Services	255,716	399	547	6,080	211,207	36,558	925	12
Department of the Interior	2,933	2,067	75	71	536	0	184	40
Department of Transportation	9,295	19	1,478	2,911	1,250	635	3,002	16
Environmental Protection Agency	1,796	0	0	713	700	0	383	24
Nat'l Aeronautics & Space Admin.	13,292	1,245	100	1,899	9,866	182	0	27
National Science Foundation	120,426	0	1	321	116,940	3,164	0	4
State rank	17	26	3	29	8	15	8	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

INDIANA

Science and Engineering Profile

	Indiana	U.S.	Rank		Indiana	U.S.	Rank
Doctoral scientists, 1993	6,901	430,332	23	Total R&D performance, 1993 (millions)	\$2,560	\$161,427	19
Doctoral engineers, 1993	1,252	81,293	19	Industry R&D, 1993 (millions)	\$2,177	\$117,622	14
S&E doctorates awarded, 1995	690	26,482	10	Academic R&D, 1994 (millions)	\$335	\$20,573	21
of which, in engineering	26%	23%		of which, in life sciences	51%	55%	
in physical sciences	21%	14%		in physical sciences	18%	10%	
in life sciences	18%	24%		in engineering	16%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	599	36,143	19	expenditures, 1993 (millions)	\$3,612	\$163,994	14
S&E graduate students, 1994				Number of SBIR awards, 1990-94	76	18.023	28
in doctorate-granting institutions	10,348	438,694	11	Patents issued to state residents, 1995	1,111	55,717	14
Population, 1995 (000s)	5,803	262,755	14	Gross state product, 1992 (billions)	\$121.6	\$5,994.1	15
Civilian labor force, 1995 (000s)	3,134	132,281	14	of which, agriculture	2%	2%	
, , ,				manufacturing, mining, construction	34%	23%	
Personal income per capita, 1995	\$21,273	\$22,788	30	transportation, communication, utilities	9%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	15%	18%	
Total expenditures, 1995 (millions)	\$22,961	\$1,326,294	18	services	15%	20%	
R&D obligations, 1994 (millions)	\$404	\$65,654	26	government	10%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Indiana by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	403,611	96,071	0	122,674	176,141	5,816	2,909	26
Department of Agriculture	15,809	4,253	0	0	11,549	7	0	32
Department of Commerce	189	0	0	0	189	0	0	42
Department of Defense	222,148	87,726	0	114,946	14,068	5,408	0	22
Department of Energy	17,105	0	0	1,368	15,682	55	0	29
Dept. of Health & Human Services	88,241	100	0	2,072	84,332	267	1,470	25
Department of the Interior	2,712	2,524	0	24	164	0	0	43
Department of Transportation	2,219	0	0	221	580	0	1,418	35
Environmental Protection Agency	1,088	0	0	55	1,012	0	21	33
Nat'l Aeronautics & Space Admin.	10,006	1,468	0	3,548	4,911	79	0	30
National Science Foundation	44,094	0	0	440	43,654	0	0	15
State rank	26	22	na	23	21	31	27	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

IOWA

Science and Engineering Profile

	Iowa	U.S.	Rank		lowa	U.S.	Rank
Doctoral scientists, 1993	3,849	430,332	31	Total R&D performance, 1993 (millions)	\$902	\$161,427	28
Doctoral engineers, 1993	433	81,293	35	Industry R&D, 1993 (millions)	\$533	\$117,622	28
S&E doctorates awarded, 1995	444	26,482	21	Academic R&D, 1994 (millions)	\$315	\$20,573	23
of which, in life sciences	29%	24%		of which, in life sciences	62%	55%	
in engineering	27%	23%		in engineering	20%	16%	
in physical sciences	13%	14%		in physical sciences	7%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	543	36,143	21	expenditures, 1993 (millions)	\$2,533	\$163,994	22
S&E graduate students, 1994				Number of SBIR awards, 1990-94	31	18,023	40
in doctorate-granting institutions	5,590	438,694	27	Patents issued to state residents, 1995	421	55,717	29
Population, 1995 (000s)	2,842	262,755	30	Gross state product, 1992 (billions)	\$59.5	\$5,994.1	30
Civilian labor force, 1995 (000s)	1,559	132,281	29	of which, agriculture	7%	2%	
, ,				manufacturing, mining, construction	26%	23%	
Personal income per capita, 1995	\$21,012	\$22,788	31	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	16%	18%	
Total expenditures, 1995 (millions)	\$12,979	\$1,326,294	32	services	15%	20%	
R&D obligations, 1994 (millions)	\$224	\$65,654	33	government	12%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Iowa by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	223,823	37,592	27,791	18,758	134,507	2,527	2,648	33
Department of Agriculture	40,127	25,437	0	80	14,610	0	0	9
Department of Commerce	2,496	0	0	580	1,916	0	0	28
Department of Defense	33,186	9,784	110	15,541	7,751	0	0	36
Department of Energy	31,992	0	27,088	1,695	3,209	0	0	22
Dept. of Health & Human Services	85,090	0	593	0	80,555	2,527	1,415	26
Department of the Interior	2,528	2,371	0	0	157	0	0	44
Department of Transportation	7,206	0	0	0	6,138	0	1,068	18
Environmental Protection Agency	1,259	0	0	125	969	0	165	30
Nat'l Aeronautics & Space Admin.	5,903	0	0	379	5,524	0	0	33
National Science Foundation	14,036	0	0	358	13,678	0	0	28
State rank	33	38	16	40	26	41	28	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

KANSAS

Science and Engineering Profile

	Kansas	U.S.	Rank		Kansas	U.S.	Rank
Doctoral scientists, 1993	3,124	430,332	35	Total R&D performance, 1993 (millions)	\$463	\$161,427	36
Doctoral engineers, 1993	515	81,293	34	Industry R&D, 1993 (millions)	\$292	\$117,622	34
S&E doctorates awarded, 1995	260	26,482	29	Academic R&D, 1994 (millions)	\$169	\$20,573	32
of which, in life sciences	37%	24%		of which, in life sciences	62%	55%	
in engineering	20%	23%		in engineering	13%	16%	
in physical sciences	15%	14%		in physical sciences	9%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	310	36,143	28	expenditures, 1993 (millions)	\$1,487	\$163,994	32
S&E graduate students, 1994				Number of SBIR awards, 1990-94	32	18,023	39
in doctorate-granting institutions	6,129	438,694	23	Patents issued to state residents, 1995	246	55,717	36
Population, 1995 (000s)	2,565	262,755	32	Gross state product, 1992 (billions)	\$56.2	\$5,994.1	31
Civilian labor force, 1995 (000s)	1,330	132,281	31	of which, agriculture	5%	2%	
, ,				manufacturing, mining, construction	23%	23%	
Personal income per capita, 1995	\$21,825	\$22,788	24	transportation, communication, utilities	11%	9%	
				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	15%	18%	
Total expenditures, 1995 (millions)	\$12,440	\$1,326,294	33	services	16%	20%	
R&D obligations, 1994 (millions)	\$85	\$65,654	43	government	13%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Kansas by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	84,823	15,157	0	11,173	55,119	1,095	2,279	44
Department of Agriculture	13,341	6,997	0	80	6,264	0	0	36
Department of Commerce	38	0	0	0	38	0	0	45
Department of Defense	14,972	4,944	0	6,534	3,494	0	0	42
Department of Energy	4,205	0	0	0	4,205	0	0	41
Dept. of Health & Human Services	31,500	0	0	863	28,239	1,095	1,303	36
Department of the Interior	3,353	3,214	0	39	100	0	0	38
Department of Transportation	1,942	0	0	94	872	0	976	37
Environmental Protection Agency	4,351	0	0	3,283	1,068	0	0	19
Nat'l Aeronautics & Space Admin.	2,595	2	0	180	2,413	0	0	39
National Science Foundation	8,526	0	0	100	8,426	0	0	39
State rank	44	45	na	43	36	47	33	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

KENTUCKY

Science and Engineering Profile

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2 700	l					
3,780	430,332	32	Total R&D performance, 1993 (millions)	\$429	\$161,427	38
360	81,293	39	Industry R&D, 1993 (millions)	\$289	\$117,622	35
198	26,482	33	Academic R&D, 1994 (millions)	\$126	\$20,573	35
37%	24%		of which, in life sciences	74%	55%	
19%	15%		in engineering	15%	16%	
16%	13%		in physical sciences	3%	10%	
			Higher education current-fund			
230	36,143	30	expenditures, 1993 (millions)	\$1,831	\$163,994	29
			Number of SBIR awards, 1990-94	28	18,023	42
3,487	438,694	34	Patents issued to state residents, 1995	272	55,717	34
3,860	262,755	24	Gross state product, 1992 (billions)	\$75.6	\$5,994.1	25
1,861	132,281	25	of which, agriculture	3%	2%	
			manufacturing, mining, construction	32%	23%	
\$18,612	\$22,788	44	transportation, communication, utilities	9%	9%	
			wholesale and retail trade	15%	16%	
			finance, insurance, real estate	14%	18%	
\$19,991	\$1,326,294	23	services	14%	20%	
\$89	\$65,654	41	government	13%	12%	
	198 37% 19% 16% 230 3,487 3,860 1,861 \$18,612	198 26,482 37% 24% 19% 15% 16% 13% 230 36,143 3,487 438,694 3,860 262,755 1,861 132,281 \$18,612 \$22,788	198 26,482 33 37% 24% 19% 15% 16% 13% 230 36,143 30 3,487 438,694 34 3,860 262,755 24 1,861 132,281 25 \$18,612 \$22,788 44 \$19,991 \$1,326,294 23	198	198	198

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition} % \begin{center} \$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Kentucky by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	88,635	8,049	0	14,159	63,939	262	2,226	42
Department of Agriculture	11,263	1,495	0	0	9,768	0	0	38
Department of Commerce	68	0	0	1	67	0	0	44
Department of Defense	7,561	4,746	0	1,400	1,415	0	0	45
Department of Energy	18,490	0	0	11,935	6,480	0	75	27
Dept. of Health & Human Services	39,287	0	0	821	37,557	262	647	31
Department of the Interior	2,354	1,808	0	0	296	0	250	45
Department of Transportation	1,240	0	0	0	66	0	1,174	41
Environmental Protection Agency	526	0	0	0	446	0	80	40
Nat'l Aeronautics & Space Admin.	1,479	0	0	0	1,479	0	0	43
National Science Foundation	6,367	0	0	2	6,365	0	0	42
State rank	42	49	na	41	33	50	34	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

LOUISIANA

Science and Engineering Profile

	Louisiana	U.S.	Rank		Louisiana	U.S.	Rank
Doctoral scientists, 1993	4,914	430,332	26	Total R&D performance, 1993 (millions)	\$470	\$161,427	35
Doctoral engineers, 1993	873	81,293	28	Industry R&D, 1993 (millions)	\$170	\$117,622	41
S&E doctorates awarded, 1995	300	26,482	26	Academic R&D, 1994 (millions)	\$269	\$20,573	26
of which, in life sciences	34%	24%		of which, in life sciences	63%	55%	
in engineering	17%	23%		in engineering	14%	16%	
in math & computer sciences	13%	8%		in environmental sciences	8%	7%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	336	36,143	26	expenditures, 1993 (millions)	\$2,473	\$163,994	23
S&E graduate students, 1994				Number of SBIR awards, 1990-94	54	18,023	32
in doctorate-granting institutions	5,992	438,694	25	Patents issued to state residents, 1995	370	55,717	31
Population, 1995 (000s)	4,342	262.755	21	Gross state product, 1992 (billions)	\$96.2	\$5,994.1	22
Civilian labor force, 1995 (000s)	1,956	132,281	24	of which, agriculture	1%	2%	
	,,,,,,,	, ,		manufacturing, mining, construction	35%	23%	
Personal income per capita, 1995	\$18,827	\$22,788	40	transportation, communication, utilities	10%	9%	
, , ,				wholesale and retail trade	13%	16%	
Federal spending				finance, insurance, real estate	14%	18%	
Total expenditures, 1995 (millions)	\$22,437	\$1,326,294	20	services	15%	20%	
R&D obligations, 1994 (millions)	\$205	\$65,654	36	government	11%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Louisiana by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	205,055	49,604	0	40,037	111,073	1,976	2,365	36
Department of Agriculture	33,856	24,997	0	0	8,859	0	0	15
Department of Commerce	2,365	793	0	0	1,563	0	9	29
Department of Defense	62,754	5,661	0	32,887	24,206	0	0	30
Department of Energy	6,487	260	0	2,726	3,501	0	0	37
Dept. of Health & Human Services	60,718	2,271	0	337	55,649	1,976	485	29
Department of the Interior	17,792	15,582	0	141	2,069	0	0	11
Department of Transportation	1,470	0	0	20	195	0	1,255	39
Environmental Protection Agency	2,409	0	0	0	2,409	0	0	22
Nat'l Aeronautics & Space Admin.	5,856	40	0	3,297	2,314	0	205	34
National Science Foundation	11,348	0	0	629	10,308	0	411	31
State rank	36	33	na	35	29	42	31	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

MAINE

Science and Engineering Profile

	Maine	U.S.	Rank		Maine	U.S.	Rank
Doctoral scientists, 1993	1,867	430,332	40	Total R&D performance, 1993 (millions)	\$114	\$161,427	47
Doctoral engineers, 1993	245	81,293	42	Industry R&D, 1993 (millions)	\$59	\$117,622	45
S&E doctorates awarded, 1995	28	26,482	49	Academic R&D, 1994 (millions)	\$29	\$20,573	50
of which, in life sciences	43%	24%		of which, in life sciences	54%	55%	
in engineering	18%	23%		in environmental sciences	24%	7%	
in physical sciences	18%	14%		in engineering	11%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	18	36,143	50	expenditures, 1993 (millions)	\$599	\$163,994	42
S&E graduate students, 1994				Number of SBIR awards, 1990-94	49	18,023	34
in doctorate-granting institutions	820	438,694	49	Patents issued to state residents, 1995	113	55,717	43
Population, 1995 (000s)	1,241	262,755	39	Gross state product, 1992 (billions)	\$24.1	\$5,994.1	43
Civilian labor force, 1995 (000s)	642	132,281	39	of which, agriculture	2%	2%	
, ,				manufacturing, mining, construction	22%	23%	
Personal income per capita, 1995	\$20,527	\$22,788	35	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	18%	18%	
Total expenditures, 1995 (millions)	\$6,540	\$1,326,294	41	services	19%	20%	
R&D obligations, 1994 (millions)	\$81	\$65,654	45	government	14%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Maine by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	80,852	3,882	0	36,902	15,747	21,768	2,553	45
Department of Agriculture	5,863	1,227	0	0	4,636	0	0	44
Department of Commerce	3,297	606	0	0	2,560	0	131	23
Department of Defense	31,283	832	0	28,413	674	1,364	0	37
Department of Energy	7,701	0	0	6,529	1,172	0	0	35
Dept. of Health & Human Services	22,315	0	0	573	1,508	18,521	1,713	41
Department of the Interior	1,558	1,217	0	7	334	0	0	48
Department of Transportation	656	0	0	234	0	0	422	48
Environmental Protection Agency	1,757	0	0	900	775	0	82	25
Nat'l Aeronautics & Space Admin.	937	0	0	90	179	463	205	46
National Science Foundation	5,485	0	0	156	3,909	1,420	0	44
State rank	45	50	na	37	49	20	30	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

MARYLAND

Science and Engineering Profile

	Maryland	U.S.	Rank		Maryland	U.S.	Rank
Doctoral scientists, 1993	17,765	430,332	6	Total R&D performance, 1993 (millions)	\$7,442	\$161,427	7
Doctoral engineers, 1993	2,832	81,293	9	Industry R&D, 1993 (millions)	\$2,076	\$117,622	16
S&E doctorates awarded, 1995	604	26,482	15	Academic R&D, 1994 (millions)	\$1,130	\$20,573	4
of which, in life sciences	28%	24%		of which, in life sciences	39%	55%	
in engineering	24%	23%		in engineering	23%	16%	
in social sciences	14%	15%		in physical sciences	16%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	1,274	36,143	7	expenditures, 1993 (millions)	\$3,453	\$163,994	15
S&E graduate students, 1994				Number of SBIR awards, 1990-94	953	18,023	4
in doctorate-granting institutions	8,940	438,694	18	Patents issued to state residents, 1995	984	55,717	19
Population, 1995 (000s)	5,042	262,755	19	Gross state product, 1992 (billions)	\$116.2	\$5,994.1	16
Civilian labor force, 1995 (000s)	2,723	132,281	18	of which, agriculture	1%	2%	
				manufacturing, mining, construction	15%	23%	
Personal income per capita, 1995	\$25,927	\$22,788	6	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	19%	18%	
Total expenditures, 1995 (millions)	\$36,847	\$1,326,294	11	services	23%	20%	
R&D obligations, 1994 (millions)	\$6,653	\$65,654	2	government	17%	12%	

Rankings and totals are based on data for the 50 States and D.C. Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Maryland by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	6,652,978	4,163,166	130,465	1,600,112	605,589	149,899	3,747	2
Department of Agriculture	114,075	101,482	0	3,010	8,975	437	171	2
Department of Commerce	277,022	267,217	0	4,567	5,032	50	156	1
Department of Defense	2,549,193	1,476,873	3,284	866,974	183,403	18,659	0	4
Department of Energy	79,783	51,890	0	12,891	14,242	760	0	15
Dept. of Health & Human Services	2,530,756	1,872,275	127,181	169,349	321,315	40,250	386	1
Department of the Interior	18,359	17,823	0	66	318	2	150	9
Department of Transportation	38,809	2,604	0	33,545	1,370	0	1,290	5
Environmental Protection Agency	8,617	0	0	6,276	1,669	0	672	14
Nat'l Aeronautics & Space Admin.	985,029	370,051	0	497,883	30,947	85,676	472	3
National Science Foundation	51,335	2,951	0	5,551	38,318	4,065	450	11
State rank	2	1	10	7	6	7	21	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

MASSACHUSETTS

Science and Engineering Profile

	Mass.	U.S.	Rank		Mass.	U.S.	Rank
Doctoral scientists, 1993	19,645	430,332	5	Total R&D performance, 1993 (millions)	\$9,468	\$161,427	4
Doctoral engineers, 1993	3,166	81,293	7	Industry R&D, 1993 (millions)	\$6,952	\$117,622	5
S&E doctorates awarded, 1995	1,445	26,482	4	Academic R&D, 1994 (millions)	\$1,122	\$20,573	5
of which, in engineering	25%	23%		of which, in life sciences	39%	55%	
in life sciences	21%	24%		in engineering	19%	16%	
in social sciences	19%	15%		in physical sciences	16%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	4,222	36,143	2	expenditures, 1993 (millions)	\$7,456	\$163,994	6
S&E graduate students, 1994				Number of SBIR awards, 1990-94	2,916	18,023	2
in doctorate-granting institutions	22,882	438,694	4	Patents issued to state residents, 1995	2,161	55,717	9
Population, 1995 (000s)	6,074	262,755	13	Gross state product, 1992 (billions)	\$162.0	\$5,994.1	10
Civilian labor force, 1995 (000s)	3,168	132,281	13	of which, agriculture	1%	2%	
. , ,				manufacturing, mining, construction	21%	23%	
Personal income per capita, 1995	\$26,994	\$22,788	4	transportation, communication, utilities	7%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	21%	18%	
Total expenditures, 1995 (millions)	\$35,858	\$1,326,294	12	services	25%	20%	
R&D obligations, 1994 (millions)	\$3,234	\$65,654	6	government	9%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Massachusetts by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	3,234,051	341,397	277,699	1,226,730	825,912	548,924	13,389	6
Department of Agriculture	21,664	14,798	0	167	6,351	348	0	22
Department of Commerce	38,499	27,636	157	6,903	3,236	221	346	6
Department of Defense	1,819,521	236,242	272,012	1,082,232	185,216	43,819	0	7
Department of Energy	88,862	129	0	6,176	79,045	3,512	0	14
Dept. of Health & Human Services	901,577	29,448	0	71,902	347,446	446,827	5,954	4
Department of the Interior	6,471	5,349	0	315	807	0	0	24
Department of Transportation	41,788	25,159	0	8,636	2,453	0	5,540	4
Environmental Protection Agency	19,823	0	0	15,513	2,761	0	1,549	5
Nat'l Aeronautics & Space Admin.	126,941	2,090	5,388	25,808	49,418	44,237	0	10
National Science Foundation	168,905	546	142	9,078	149,179	9,960	0	3
State rank	6	11	5	8	3	1	3	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

MICHIGAN

Science and Engineering Profile

	Michigan	U.S.	Rank		Michigan	U.S.	Rank
Doctoral scientists, 1993	11,796	430,332	14	Total R&D performance, 1993 (millions)	\$10,778	\$161,427	3
Doctoral engineers, 1993	2,684	81,293	10	Industry R&D, 1993 (millions)	\$9,924	\$117,622	2
S&E doctorates awarded, 1995	998	26,482	8	Academic R&D, 1994 (millions)	\$730	\$20,573	8
of which, in engineering	27%	23%		of which, in life sciences	54%	55%	
in life sciences	22%	24%		in engineering	18%	16%	
in social sciences	15%	15%		in social sciences	9%	4%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	1,148	36,143	9	expenditures, 1993 (millions)	\$5,715	\$163,994	8
S&E graduate students, 1994				Number of SBIR awards, 1990-94	302	18,023	15
in doctorate-granting institutions	17,350	438,694	9	Patents issued to state residents, 1995	2,779	55,717	5
Population, 1995 (000s)	9,549	262,755	8	Gross state product, 1992 (billions)	\$204.4	\$5,994.1	9
Civilian labor force, 1995 (000s)	4,745	132,281	8	of which, agriculture	1%	2%	
. , ,				manufacturing, mining, construction	31%	23%	
Personal income per capita, 1995	\$23,551	\$22,788	16	transportation, communication, utilities	7%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	16%	18%	
Total expenditures, 1995 (millions)	\$39,372	\$1,326,294	9	services	18%	20%	
R&D obligations, 1994 (millions)	\$770	\$65,654	20	government	11%	12%	

Rankings and totals are based on data for the 50 States and D.C. Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Michigan

by Agency and Performer: Fiscal Year 1994
[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	770,231	99,972	0	227,762	392,223	45,675	4,599	20
Department of Agriculture	22,977	7,872	0	80	15,025	0	0	21
Department of Commerce	19,905	6,777	0	11,762	803	422	141	11
Department of Defense	339,519	78,565	0	194,546	39,779	26,629	0	20
Department of Energy	14,234	0	0	814	13,323	97	0	31
Dept. of Health & Human Services	257,662	0	0	6,798	237,888	11,059	1,917	11
Department of the Interior	7,262	6,748	0	90	424	0	0	23
Department of Transportation	4,803	10	0	604	2,248	0	1,941	25
Environmental Protection Agency	12,541	o	0	7,752	4,189	0	600	9
Nat'l Aeronautics & Space Admin.	23,419	0	0	4,926	11,066	7,427	0	22
National Science Foundation	67,909	0	0	390	67,478	41	0	9
201	20	24		20	0	1.4	45	
State rank	20	21	na	20	9	14	15	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

MINNESOTA

Science and Engineering Profile

	Minnesota	U.S.	Rank		Minnesota	U.S.	Rank
Doctoral scientists, 1993	7,705	430,332	18	Total R&D performance, 1993 (millions)	\$2,922	\$161,427	14
Doctoral engineers, 1993	1,163	81,293	21	Industry R&D, 1993 (millions)	\$2,458	\$117,622	11
S&E doctorates awarded, 1995	475	26,482	18	Academic R&D, 1994 (millions)	\$318	\$20,573	22
of which, in life sciences	30%	24%		of which, in life sciences	69%	55%	
in engineering	24%	23%		in engineering	10%	16%	
in psychology	16%	13%		in math & computer sciences	7%	4%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	705	36,143	15	expenditures, 1993 (millions)	\$3,099	\$163,994	18
S&E graduate students, 1994				Number of SBIR awards, 1990-94	269	18,023	18
in doctorate-granting institutions	5,969	438,694	26	Patents issued to state residents, 1995	1,657	55,717	11
Population, 1995 (000s)	4,610	262,755	20	Gross state product, 1992 (billions)	\$110.3	\$5,994.1	18
Civilian labor force, 1995 (000s)	2,589	132,281	20	of which, agriculture	3%	2%	
,				manufacturing, mining, construction	25%	23%	
Personal income per capita, 1995	\$23,118	\$22,788	20	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	18%	18%	
Total expenditures, 1995 (millions)	\$18,825	\$1,326,294	26	services	18%	20%	
R&D obligations, 1994 (millions)	\$474	\$65,654	24	government	11%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition} % \begin{subarray}{ll} \end{subarray} % \begin{subarr$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Minnesota by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	474,372	40,620	0	183,537	171,224	73,128	5,863	24
Department of Agriculture	24,263	14,963	0	160	9,074	0	66	20
Department of Commerce	2,727	0	0	2,274	453	0	0	26
Department of Defense	184,886	4,093	0	166,869	11,616	2,308	0	23
Department of Energy	6,867	0	0	0	6,867	0	0	36
Dept. of Health & Human Services	187,722	0	0	3,862	109,315	69,986	4,559	16
Department of the Interior	17,664	15,973	0	1,219	472	0	0	12
Department of Transportation	5,284	0	0	3,017	1,154	0	1,113	23
Environmental Protection Agency	10,376	5,591	0	3,001	1,659	0	125	12
Nat'l Aeronautics & Space Admin.	4,152	0	0	2,009	2,079	64	0	36
National Science Foundation	30,431	0	0	1,126	28,535	770	0	21
State rank	24	36	na	21	22	10	9	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

MISSISSIPPI

Science and Engineering Profile

	Mississippi	U.S.	Rank		Mississippi	U.S.	Rank
Doctoral scientists, 1993	2,453	430,332	36	Total R&D performance, 1993 (millions)	\$325	\$161,427	41
Doctoral engineers, 1993	533	81,293	33	Industry R&D, 1993 (millions)	\$52	\$117,622	46
S&E doctorates awarded, 1995	172	26,482	36	Academic R&D, 1994 (millions)	\$114	\$20,573	36
of which, in life sciences	37%	24%		of which, in life sciences	54%	55%	
in psychology	24%	13%		in engineering	19%	16%	
in engineering	16%	23%		in physical sciences	12%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	93	36,143	37	expenditures, 1993 (millions)	\$1,219	\$163,994	35
S&E graduate students, 1994				Number of SBIR awards, 1990-94	15	18,023	44
in doctorate-granting institutions	3,096	438,694	35	Patents issued to state residents, 1995	105	55,717	45
Population, 1995 (000s)	2,697	262,755	31	Gross state product, 1992 (billions)	\$44.3	\$5,994.1	32
Civilian labor force, 1995 (000s)	1,258	132,281	32	of which, agriculture	3%	2%	
, ,				manufacturing, mining, construction	29%	23%	
Personal income per capita, 1995	\$16,531	\$22,788	51	transportation, communication, utilities	12%	9%	
				wholesale and retail trade	15%	16%	
Federal spending				finance, insurance, real estate	14%	18%	
Total expenditures, 1995 (millions)	\$14,233	\$1,326,294	30	services	12%	20%	
R&D obligations, 1994 (millions)	\$256	\$65,654	31	government	14%	12%	
				-			

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Mississippi by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	255,734	124,493	0	81,135	41,411	4,974	3,721	31
Department of Agriculture	49,570	35,530	0	0	13,252	788	0	6
Department of Commerce	56,948	6,153	0	49,999	558	0	238	4
Department of Defense	82,538	58,776	0	14,911	6,816	2,035	0	29
Department of Energy	3,673	223	0	1,284	2,166	0	0	43
Dept. of Health & Human Services	14,060	0	0	129	11,507	349	2,075	44
Department of the Interior	2,959	2,460	0	0	499	0	0	39
Department of Transportation	2,009	950	0	0	179	0	880	36
Environmental Protection Agency	538	0	0	0	50	0	488	39
Nat'l Aeronautics & Space Admin.	38,281	20,263	0	14,812	1,404	1,802	0	16
National Science Foundation	5,158	138	0	0	4,980	0	40	45
State rank	31	19	na	30	40	36	22	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

MISSOURI

Science and Engineering Profile

	Missouri	U.S.	Rank		Missouri	U.S.	Rank
Doctoral scientists, 1993	7,671	430,332	19	Total R&D performance, 1993 (millions)	\$1,789	\$161,427	23
Doctoral engineers, 1993	1,126	81,293	23	Industry R&D, 1993 (millions)	\$1,375	\$117,622	18
S&E doctorates awarded, 1995	411	26,482	22	Academic R&D, 1994 (millions)	\$375	\$20,573	17
of which, in life sciences	27%	24%		of which, in life sciences	77%	55%	''
in engineering	25%	23%		in engineering	8%	16%	
in psychology	17%	13%		in physical sciences	6%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	767	36,143	13	expenditures, 1993 (millions)	\$3,249	\$163,994	17
S&E graduate students, 1994				Number of SBIR awards, 1990-94	80	18,023	27
in doctorate-granting institutions	6,920	438,694	21	Patents issued to state residents, 1995	670	55,717	23
Population, 1995 (000s)	5,324	262.755	16	Gross state product, 1992 (billions)	\$111.6	\$5,994.1	17
Civilian labor force, 1995 (000s)	2,832	132,281	16	of which, agriculture	2%	2%	''
(2223,	, , , , ,	, -		manufacturing, mining, construction	24%	23%	
Personal income per capita, 1995	\$21,627	\$22,788	27	transportation, communication, utilities	11%	9%	
, , ,				wholesale and retail trade	18%	16%	
Federal spending				finance, insurance, real estate	16%	18%	
Total expenditures, 1995 (millions)	\$31,418	\$1,326,294	14	services	19%	20%	
R&D obligations, 1994 (millions)	\$2,272	\$65,654	10	government	11%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Missouri by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,271,683	58,262	0	1,971,805	220,545	17,416	3,655	10
Department of Agriculture	19,067	6,642	0	80	12,345	0	0	26
Department of Commerce	426	136	0	32	172	86	0	39
Department of Defense	2,010,504	37,455	0	1,963,358	8,854	837	0	6
Department of Energy	5,513	0	0	20	4,799	694	0	40
Dept. of Health & Human Services	191,928	27	0	1,420	173,673	14,816	1,992	15
Department of the Interior	15,262	13,957	0	345	960	0	0	13
Department of Transportation	2,506	0	0	604	239	0	1,663	33
Environmental Protection Agency	1,723	0	0	1,411	312	0	0	27
Nat'l Aeronautics & Space Admin.	8,946	45	0	4,340	4,491	70	0	31
National Science Foundation	15,808	0	0	195	14,700	913	0	27
State rank	10	30	na	5	17	23	23	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

MONTANA

Science and Engineering Profile

	Montana	U.S.	Rank		Montana	U.S.	Rank
Doctoral scientists, 1993	1,581	430,332	44	Total R&D performance, 1993 (millions)	\$85	\$161,427	49
Doctoral engineers, 1993	111	81,293	48	Industry R&D, 1993 (millions)	\$14	\$117,622	49
S&E doctorates awarded, 1995	47	26,482	47	Academic R&D, 1994 (millions)	\$53	\$20,573	46
of which, in life sciences	34%	24%		of which, in life sciences	67%	55%	
in physical sciences	19%	14%		in physical sciences	9%	10%	
in psychology	17%	13%		in engineering	9%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	27	36,143	48	expenditures, 1993 (millions)	\$377	\$163,994	48
S&E graduate students, 1994				Number of SBIR awards, 1990-94	31	18,023	40
in doctorate-granting institutions	1,296	438,694	44	Patents issued to state residents, 1995	122	55,717	42
Population, 1995 (000s)	870	262,755	44	Gross state product, 1992 (billions)	\$15.2	\$5,994.1	47
Civilian labor force, 1995 (000s)	436	132,281	44	of which, agriculture	6%	2%	
, ,				manufacturing, mining, construction	18%	23%	
Personal income per capita, 1995	\$18,482	\$22,788	45	transportation, communication, utilities	13%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	17%	18%	
Total expenditures, 1995 (millions)	\$4,808	\$1,326,294	45	services	17%	20%	
R&D obligations, 1994 (millions)	\$56	\$65,654	46	government	15%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Montana by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	56,420	28,782	0	3,873	21,368	1,018	1,379	46
Department of Agriculture	14,687	9,912	0	0	4,704	71	0	34
Department of Commerce	400	0	0	0	400	0	0	40
Department of Defense	1,264	64	0	142	1,023	35	0	50
Department of Energy	3,789	480	0	2,959	100	0	250	42
Dept. of Health & Human Services	19,386	13,261	0	162	4,796	912	255	43
Department of the Interior	5,546	5,030	0	67	449	0	0	30
Department of Transportation	874	0	0	0	0	0	874	45
Environmental Protection Agency	134	0	0	0	134	0	0	45
Nat'l Aeronautics & Space Admin.	1,722	35	0	543	1,144	0	0	41
National Science Foundation	8,618	0	0	0	8,618	0	0	38
State rank	46	42	na	48	46	48	42	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

NEBRASKA

Science and Engineering Profile

	Nebraska	U.S.	Rank		Nebraska	U.S.	Rank
Doctoral scientists, 1993	2,416	430,332	37	Total R&D performance, 1993 (millions)	\$295	\$161,427	43
Doctoral engineers, 1993	288	81,293	41	Industry R&D, 1993 (millions)	\$128	\$117,622	42
S&E doctorates awarded, 1995	141	26,482	37	Academic R&D, 1994 (millions)	\$146	\$20,573	34
of which, in life sciences	43%	24%		of which, in life sciences	78%	55%	
in psychology	16%	13%		in engineering	10%	16%	
in physical sciences	13%	14%		in physical sciences	5%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	167	36,143	33	expenditures, 1993 (millions)	\$1,256	\$163,994	34
S&E graduate students, 1994				Number of SBIR awards, 1990-94	33	18,023	38
in doctorate-granting institutions	2,472	438,694	36	Patents issued to state residents, 1995	136	55,717	40
Population, 1995 (000s)	1,637	262,755	37	Gross state product, 1992 (billions)	\$37.2	\$5,994.1	35
Civilian labor force, 1995 (000s)	897	132,281	35	of which, agriculture	10%	2%	
, , ,				manufacturing, mining, construction	16%	23%	
Personal income per capita, 1995	\$21,703	\$22,788	26	transportation, communication, utilities	10%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	17%	18%	
Total expenditures, 1995 (millions)	\$7,692	\$1,326,294	38	services	16%	20%	
R&D obligations, 1994 (millions)	\$85	\$65,654	43	government	15%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Nebraska by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	85,176	27,942	0	6,440	42,931	5,788	2,075	43
Department of Agriculture	26,382	17,898	0	0	8,484	0	0	18
Department of Commerce	114	0	0	0	114	0	0	43
Department of Defense	19,504	6,894	0	5,033	7,577	0	0	39
Department of Energy	1,364	0	0	550	814	0	0	48
Dept. of Health & Human Services	25,483	0	0	78	18,255	5,788	1,362	38
Department of the Interior	3,640	3,150	0	0	490	0	0	36
Department of Transportation	733	0	0	0	40	0	693	47
Environmental Protection Agency	45	0	0	0	25	0	20	47
Nat'l Aeronautics & Space Admin.	1,656	0	0	311	1,345	0	0	42
National Science Foundation	6,255	0	0	468	5,787	0	0	43
State rank	43	43	na	47	37	32	35	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

NEVADA

Science and Engineering Profile

	Nevada	U.S.	Rank		Nevada	U.S.	Rank
Doctoral scientists, 1993	1,300	430,332	47	Total R&D performance, 1993 (millions)	\$218	\$161,427	45
Doctoral engineers, 1993	229	81,293	43	Industry R&D, 1993 (millions)	\$67	\$117,622	44
S&E doctorates awarded, 1995	54	26,482	44	Academic R&D, 1994 (millions)	\$83	\$20,573	39
of which, in life sciences	26%	24%		of which, in environmental sciences	34%	7%	
in engineering	22%	23%		in life sciences	28%	55%	
in environmental sciences	19%	3%		in engineering	12%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	53	36,143	43	expenditures, 1993 (millions)	\$383	\$163,994	47
S&E graduate students, 1994				Number of SBIR awards, 1990-94	38	18,023	37
in doctorate-granting institutions	1,587	438,694	43	Patents issued to state residents, 1995	167	55,717	38
Population, 1995 (000s)	1,530	262,755	38	Gross state product, 1992 (billions)	\$36.8	\$5,994.1	36
Civilian labor force, 1995 (000s)	801	132,281	36	of which, agriculture	1%	2%	
, ,				manufacturing, mining, construction	15%	23%	
Personal income per capita, 1995	\$25,013	\$22,788	8	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	13%	16%	
Federal spending				finance, insurance, real estate	17%	18%	
Total expenditures, 1995 (millions)	\$6,628	\$1,326,294	40	services	36%	20%	
R&D obligations, 1994 (millions)	\$348	\$65,654	28	government	10%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Nevada by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	347,665	51,140	0	270,869	22,616	1,295	1,745	28
Department of Agriculture	3,133	964	0	0	2,169	0	0	50
Department of Commerce	580	0	0	0	84	0	496	37
Department of Defense	33,347	28,852	0	3,097	1,300	98	0	35
Department of Energy	263,080	75	0	260,438	2,567	0	0	8
Dept. of Health & Human Services	7,828	0	0	0	6,183	1,160	485	45
Department of the Interior	17,984	15,567	0	215	2,202	0	0	10
Department of Transportation	3,975	0	0	3,450	0	0	525	28
Environmental Protection Agency	10,219	5,580	0	3,483	917	0	239	13
Nat'l Aeronautics & Space Admin.	652	102	0	123	427	0	0	48
National Science Foundation	6,867	0	0	63	6,767	37	0	41
State rank	28	32	na	18	45	45	38	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

NEW HAMPSHIRE

Science and Engineering Profile

	N.H.	U.S.	Rank		N.H.	U.S.	Rank
Doctoral scientists, 1993	1,845	430,332	41	Total R&D performance, 1993 (millions)	\$438	\$161,427	37
Doctoral engineers, 1993	364	81,293	38	Industry R&D, 1993 (millions)	\$248	\$117,622	38
S&E doctorates awarded, 1995	87	26,482	40	Academic R&D, 1994 (millions)	\$102	\$20,573	37
of which, in life sciences	38%	24%		of which, in life sciences	52%	55%	
in physical sciences	26%	14%		in environmental sciences	24%	7%	
in engineering	13%	23%		in engineering	10%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	98	36,143	36	expenditures, 1993 (millions)	\$791	\$163,994	39
S&E graduate students, 1994				Number of SBIR awards, 1990-94	195	18,023	23
in doctorate-granting institutions	1,150	438,694	46	Patents issued to state residents, 1995	404	55,717	30
Population, 1995 (000s)	1,148	262,755	42	Gross state product, 1992 (billions)	\$25.5	\$5,994.1	42
Civilian labor force, 1995 (000s)	633	132,281	40	of which, agriculture	1%	2%	72
		.02,20		manufacturing, mining, construction	25%	23%	
Personal income per capita, 1995	\$25,151	\$22,788	7	transportation, communication, utilities	8%	9%	
, , ,				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	21%	18%	
Total expenditures, 1995 (millions)	\$4,856	\$1,326,294	44	services	20%	20%	
R&D obligations, 1994 (millions)	\$219	\$65,654	34	government	10%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in New Hampshire by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	218,891	32,599	0	116,029	67,885	1,769	609	34
Department of Agriculture	5,000	2,324	0	80	2,596	0	0	48
Department of Commerce	742	0	0	0	701	0	41	36
Department of Defense	148,698	26,161	0	110,055	11,585	897	0	26
Department of Energy	1,502	0	0	0	1,497	5	0	47
Dept. of Health & Human Services	35,335	0	0	1,172	33,138	867	158	34
Department of the Interior	1,318	1,078	0	0	240	0	0	50
Department of Transportation	1,856	1,442	0	4	0	0	410	38
Environmental Protection Agency	333	0	0	0	333	0	0	42
Nat'l Aeronautics & Space Admin.	14,146	211	0	4,465	9,470	0	0	25
National Science Foundation	9,961	1,383	0	253	8,325	0	0	36
State rank	34	40	na	25	32	43	49	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

NEW JERSEY

Science and Engineering Profile

	New Jersey	/ U.S.	Rank		New Jersey	/ U.S.	Rank
Doctoral scientists, 1993	16,898	430,332	8	Total R&D performance, 1993 (millions)	\$9,182	\$161,427	5
Doctoral engineers, 1993	4,180	81,293	4	Industry R&D, 1993 (millions)	\$8,162	\$117,622	4
S&E doctorates awarded, 1995	627	26,482	13	Academic R&D, 1994 (millions)	\$406	\$20,573	16
of which, in engineering	22%	23%		of which, in life sciences	45%	55%	
in life sciences	20%	24%		in engineering	17%	16%	
in physical sciences	17%	14%		in physical sciences	11%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	619	36,143	18	expenditures, 1993 (millions)	\$3,798	\$163,994	12
S&E graduate students, 1994				Number of SBIR awards, 1990-94	581	18,023	9
in doctorate-granting institutions	10,091	438,694	12	Patents issued to state residents, 1995	2,753	55,717	6
Population, 1995 (000s)	7,945	262,755	9	Gross state product, 1992 (billions)	\$223.1	\$5,994.1	8
Civilian labor force, 1995 (000s)	4,064	132,281	9	of which, agriculture	1%	2%	
, ,				manufacturing, mining, construction	20%	23%	
Personal income per capita, 1995	\$28,858	\$22,788	3	transportation, communication, utilities	9%	9%	
				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	21%	18%	
Total expenditures, 1995 (millions)	\$37,587	\$1,326,294	10	services	22%	20%	
R&D obligations, 1994 (millions)	\$1,392	\$65,654	15	government	11%	12%	
				-			

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in New Jersey by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,391,942	438,937	102,134	632,130	200,007	14,020	4,714	15
Department of Agriculture	6,999	888	0	0	6,111	0	0	41
Department of Commerce	23,470	17,067	0	2,852	3,370	48	133	10
Department of Defense	844,521	374,285	183	421,584	44,559	3,910	0	12
Department of Energy	127,413	0	101,843	13,622	11,851	97	0	12
Dept. of Health & Human Services	103,296	0	0	9,998	82,469	9,210	1,619	23
Department of the Interior	4,351	2,900	0	797	151	0	503	33
Department of Transportation	85,443	43,490	0	37,589	1,927	0	2,437	2
Environmental Protection Agency	2,381	0	0	563	1,818	0	0	23
Nat'l Aeronautics & Space Admin.	149,077	307	0	142,206	6,182	382	0	9
National Science Foundation	44,991	0	108	2,919	41,569	373	22	14
State rank	15	9	11	14	18	25	14	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

NEW MEXICO

Science and Engineering Profile

5,386				1 1		
5,386		1 1				
	430,332	25	Total R&D performance, 1993 (millions)	\$2,752	\$161,427	17
1,697	81,293	14	Industry R&D, 1993 (millions)	\$962	\$117,622	23
176	26,482	35	Academic R&D, 1994 (millions)	\$192	\$20,573	30
29%	23%		of which, in engineering	49%	16%	
22%	24%		in life sciences	26%	55%	
14%	14%		in environmental sciences	8%	7%	
			Higher education current-fund			
84	36,143	40	expenditures, 1993 (millions)	\$1,103	\$163,994	36
			Number of SBIR awards, 1990-94	366	18,023	13
3,549	438,694	33	Patents issued to state residents, 1995	255	55,717	35
1,685	262,755	36	Gross state product, 1992 (billions)	\$31.9	\$5,994.1	39
788	132,281	38	of which, agriculture	3%	2%	
			manufacturing, mining, construction	24%	23%	
\$18,055	\$22,788	48	transportation, communication, utilities	10%	9%	
			wholesale and retail trade	14%	16%	
			finance, insurance, real estate	14%	18%	
\$11,794	\$1,326,294	34	services	18%	20%	
\$1,894	\$65,654	12	government	18%	12%	
	176 29% 22% 14% 84 3,549 1,685 788 \$18,055	176	176 26,482 35 29% 23% 24% 14% 14% 40 84 36,143 40 3,549 438,694 33 1,685 262,755 36 788 132,281 38 \$18,055 \$22,788 48 \$11,794 \$1,326,294 34	Academic R&D, 1994 (millions) of which, in engineering in life sciences in environmental sciences Higher education current-fund expenditures, 1993 (millions) Number of SBIR awards, 1990-94 Patents issued to state residents, 1995 1,685 262,755 36 788 132,281 38 Gross state product, 1992 (billions) of which, agriculture manufacturing, mining, construction transportation, communication, utilities wholesale and retail trade finance, insurance, real estate \$11,794 \$1,326,294 34	176 26,482 35 Academic R&D, 1994 (millions) \$192 29% 23% 49% 49% 22% 24% in life sciences 26% 14% 14% Higher education current-fund expenditures, 1993 (millions) \$1,103 Number of SBIR awards, 1990-94 366 262,755 36 1,685 262,755 36 Gross state product, 1992 (billions) \$31.9 788 132,281 38 of which, agriculture manufacturing, mining, construction transportation, communication, utilities wholesale and retail trade finance, insurance, real estate finance, insurance, real estate finance, insurance, real estate services 14% \$11,794 \$1,326,294 34 services 18%	176 26,482 35 Academic R&D, 1994 (millions) \$192 \$20,573 29% 23% 16% 16% 22% 24% 26% 55% 14% 14% 40 Higher education current-fund expenditures, 1993 (millions) \$1,103 \$163,994 Number of SBIR awards, 1990-94 366 18,023 Patents issued to state residents, 1995 255 55,717 1,685 262,755 36 Gross state product, 1992 (billions) of which, agriculture manufacturing, mining, construction transportation, communication, utilities wholesale and retail trade finance, insurance, real estate finance, insurance, insurance

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in New Mexico by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,894,083	381,366	1,263,387	158,263	83,308	5,688	2,071	12
Department of Agriculture	6,587	2,896	0	0	3,616	75	0	43
Department of Commerce	30	0	0	0	30	0	0	46
Department of Defense	603,738	319,808	139,707	124,686	19,036	501	0	16
Department of Energy	1,178,992	33,552	1,115,870	20,537	8,095	938	0	1
Dept. of Health & Human Services	36,718	1,294	6,478	1,817	23,017	2,947	1,165	33
Department of the Interior	5,616	4,855	450	60	251	0	0	29
Department of Transportation	5,664	4,285	0	242	231	0	906	22
Environmental Protection Agency	857	0	0	675	182	0	0	36
Nat'l Aeronautics & Space Admin.	45,072	14,044	882	9,595	20,362	189	0	14
National Science Foundation	10,809	632	0	651	8,488	1,038	0	33
State rank	12	10	2	22	30	33	36	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

NEW YORK

Science and Engineering Profile

	New York	U.S.	Rank		New York	U.S.	Rank
Doctoral scientists, 1993	36,882	430,332	2	Total R&D performance, 1993 (millions)	\$10,975	\$161,427	2
Doctoral engineers, 1993	5,410	81,293	3	Industry R&D, 1993 (millions)	\$8,820	\$117,622	3
S&E doctorates awarded, 1995	2,471	26,482	2	Academic R&D, 1994 (millions)	\$1,660	\$20,573	2
of which, in life sciences	23%	24%		of which, in life sciences	64%	55%	
in social sciences	18%	15%		in engineering	13%	16%	
in engineering	17%	23%		in physical sciences	9%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	2,878	36,143	3	expenditures, 1993 (millions)	\$15,634	\$163,994	2
S&E graduate students, 1994				Number of SBIR awards, 1990-94	858	18,023	5
in doctorate-granting institutions	40,781	438,694	2	Patents issued to state residents, 1995	4,684	55,717	2
Population, 1995 (000s)	18,136	262,755	3	Gross state product, 1992 (billions)	\$497.6	\$5,994.1	2
Civilian labor force, 1995 (000s)	8,493	132,281	3	of which, agriculture	1%	2%	
, ,				manufacturing, mining, construction	17%	23%	
Personal income per capita, 1995	\$26,782	\$22,788	5	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	14%	16%	
Federal spending				finance, insurance, real estate	26%	18%	
Total expenditures, 1995 (millions)	\$93,781	\$1,326,294	2	services	23%	20%	
R&D obligations, 1994 (millions)	\$2,699	\$65,654	8	government	11%	12%	

Rankings and totals are based on data for the 50 States and D.C. Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in New York

by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	2,698,717	151,024	197,809	1,027,741	1,046,333	195,939	79,871	8
Department of Agriculture	32,753	15,190	0	374	16,249	940	0	16
Department of Commerce	7,220	696	145	3,724	2,550	2	103	17
Department of Defense	889,190	107,955	6,290	664,693	103,346	6,906	0	10
Department of Energy	569,090	18,139	184,510	312,758	52,190	1,493	0	3
Dept. of Health & Human Services	934,914	220	3,872	15,878	665,974	174,501	74,469	3
Department of the Interior	6,396	5,050	0	768	561	0	17	26
Department of Transportation	12,594	0	0	7,844	233	33	4,484	12
Environmental Protection Agency	5,879	0	0	3,080	2,165	0	634	16
Nat'l Aeronautics & Space Admin.	44,276	3,774	1,810	14,989	22,451	1,187	65	15
National Science Foundation	196,405	0	1,182	3,633	180,614	10,877	99	2
State rank	8	17	7	9	2	4	1	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

NORTH CAROLINA

Science and Engineering Profile

	N. Carolina	U.S.	Rank		N. Carolina	U.S.	Rank
Doctoral scientists, 1993	12,189	430,332	12	Total R&D performance, 1993 (millions)	\$2,745	\$161,427	18
Doctoral engineers, 1993	1,388	81,293	16	Industry R&D, 1993 (millions)	\$1,929	\$117,622	17
S&E doctorates awarded, 1995	691	26,482	9	Academic R&D, 1994 (millions)	\$658	\$20,573	9
of which, in life sciences	35%	24%		of which, in life sciences	71%	55%	
in engineering	20%	23%		in engineering	10%	16%	
in social sciences	14%	15%		in social sciences	5%	4%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	1,372	36,143	6	expenditures, 1993 (millions)	\$5,012	\$163,994	9
S&E graduate students, 1994				Number of SBIR awards, 1990-94	209	18,023	22
in doctorate-granting institutions	9,570	438,694	14	Patents issued to state residents, 1995	1,038	55,717	16
Population, 1995 (000s)	7,195	262,755	11	Gross state product, 1992 (billions)	\$159.6	\$5,994.1	11
Civilian labor force, 1995 (000s)	3,636	132,281	10	of which, agriculture	2%	2%	
, ,				manufacturing, mining, construction	34%	23%	
Personal income per capita, 1995	\$20,604	\$22,788	34	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	15%	16%	
Federal spending				finance, insurance, real estate	14%	18%	
Total expenditures, 1995 (millions)	\$30,656	\$1,326,294	15	services	14%	20%	
R&D obligations, 1994 (millions)	\$734	\$65,654	21	government	13%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in North Carolina by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	734,323	112,716	0	113,980	448,777	45,822	13,028	21
Department of Agriculture	34,665	18,579	0	3	16,065	18	0	13
Department of Commerce	13,907	6,532	0	1,156	6,075	0	144	13
Department of Defense	133,173	45,651	0	45,428	40,023	2,071	0	27
Department of Energy	13,107	895	0	1,399	9,413	1,400	0	32
Dept. of Health & Human Services	359,925	852	0	10,791	307,325	38,120	2,837	7
Department of the Interior	3,662	3,147	0	8	357	0	150	35
Department of Transportation	4,648	13	0	53	2,711	o	1,871	26
Environmental Protection Agency	117,578	36,820	0	52,993	19,739	0	8,026	2
Nat'l Aeronautics & Space Admin.	10,462	127	0	1,748	6,668	1,919	0	29
National Science Foundation	43,196	100	0	401	40,401	2,294	0	16
State rank	21	20	na	26	7	13	4	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

NORTH DAKOTA

Science and Engineering Profile

	N. Dakota	U.S.	Rank		N. Dakota	U.S.	Rank
Doctoral scientists, 1993	1,107	430,332	48	Total R&D performance, 1993 (millions)	\$91	\$161,427	48
Doctoral engineers, 1993	147	81,293	47	Industry R&D, 1993 (millions)	\$9	\$117,622	51
S&E doctorates awarded, 1995	53	26,482	45	Academic R&D, 1994 (millions)	\$56	\$20,573	44
of which, in life sciences	42%	24%		of which, in life sciences	52%	55%	
in psychology	26%	13%		in engineering	24%	16%	
in physical sciences	15%	14%		in physical sciences	9%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	45	36,143	45	expenditures, 1993 (millions)	\$453	\$163,994	45
S&E graduate students, 1994				Number of SBIR awards, 1990-94	12	18,023	46
in doctorate-granting institutions	999	438,694	47	Patents issued to state residents, 1995	58	55,717	47
Population, 1995 (000s)	641	262,755	47	Gross state product, 1992 (billions)	\$13.1	\$5,994.1	49
Civilian labor force, 1995 (000s)	334	132,281	47	of which, agriculture	12%	2%	
,				manufacturing, mining, construction	15%	23%	
Personal income per capita, 1995	\$18,663	\$22,788	43	transportation, communication, utilities	9%	9%	
				wholesale and retail trade	18%	16%	
Federal spending				finance, insurance, real estate	15%	18%	
Total expenditures, 1995 (millions)	\$3,777	\$1,326,294	48	services	15%	20%	
R&D obligations, 1994 (millions)	\$50	\$65,654	47	government	15%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in North Dakota by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	49,580	25,504	0	597	21,109	1,270	1,100	48
Department of Agriculture	25,753	19,863	0	0	5,890	0	0	19
Department of Commerce	387	0	0	0	0	0	387	41
Department of Defense	1,725	20	0	452	1,253	0	0	49
Department of Energy	6,145	0	0	0	6,145	0	0	38
Dept. of Health & Human Services	4,485	0	0	0	3,033	1,270	182	48
Department of the Interior	5,973	5,621	0	13	339	0	0	28
Department of Transportation	531	0	0	0	0	0	531	50
Environmental Protection Agency	2,497	0	0	55	2,442	0	0	21
Nat'l Aeronautics & Space Admin.	318	0	0	77	241	0	0	51
National Science Foundation	1,766	0	0	0	1,766	0	0	51
State rank	48	44	na	51	47	46	46	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

OHIO

Science and Engineering Profile

	Ohio	U.S.	Rank		Ohio	U.S.	Rank
Doctoral scientists, 1993	14,727	430,332	9	Total R&D performance, 1993 (millions)	\$6,395	\$161,427	10
Doctoral engineers, 1993	3,888	81,293	5	Industry R&D, 1993 (millions)	\$5,144	\$117,622	8
S&E doctorates awarded, 1995	1,065	26,482	7	Academic R&D, 1994 (millions)	\$623	\$20,573	10
of which, in engineering	28%	23%		of which, in life sciences	51%	55%	
in life sciences	23%	24%		in engineering	27%	16%	
in physical sciences	17%	14%		in physical sciences	9%	10%	
SSE postdoctorates 1004				Higher education current fund			
S&E postdoctorates, 1994	968	26.442	12	Higher education current-fund	#c 00c	\$462.004	7
in doctorate-granting institutions	968	36,143	12	expenditures, 1993 (millions)	\$6,086	\$163,994	'
S&E graduate students, 1994				Number of SBIR awards, 1990-94	468	18,023	11
in doctorate-granting institutions	22,084	438,694	5	Patents issued to state residents, 1995	2,418	55,717	8
Population, 1995 (000s)	11,151	262,755	7	Gross state product, 1992 (billions)	\$241.6	\$5,994.1	7
Civilian labor force, 1995 (000s)	5,584	132,281	7	of which, agriculture	1%	2%	'
Civilian labor lords, 1000 (0000)	0,001	102,201	'	manufacturing, mining, construction	30%	23%	
Personal income per capita, 1995	\$22,021	\$22,788	22	transportation, communication, utilities	8%	9%	
	, ,			wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	16%	18%	
Total expenditures, 1995 (millions)	\$50,543	\$1,326,294	8	services	18%	20%	
R&D obligations, 1994 (millions)	\$1,734	\$65,654	14	government	10%	12%	
				_			

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Ohio by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,734,371	585,982	0	732,833	333,732	77,365	4,459	14
Department of Agriculture	16,521	7,274	0	6	9,226	8	7	29
Department of Commerce	2,906	0	0	1,972	913	21	0	25
Department of Defense	814,577	289,826	0	455,216	51,259	18,276	0	14
Department of Energy	25,550	0	0	16,407	7,397	1,746	0	23
Dept. of Health & Human Services	259,485	13,173	0	10,292	187,556	47,419	1,045	10
Department of the Interior	3,801	3,122	0	0	679	0	0	34
Department of Transportation	11,456	5,194	0	876	1,404	1,523	2,459	13
Environmental Protection Agency	47,838	22,096	0	6,489	18,522	0	731	3
Nat'l Aeronautics & Space Admin.	516,892	245,297	0	240,739	22,267	8,372	217	6
National Science Foundation	35,345	0	0	836	34,509	0	0	19
State rank	14	6	na	11	10	9	16	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

OKLAHOMA

Science and Engineering Profile

	Oklahoma	U.S.	Rank		Oklahoma	U.S.	Rank
Doctoral scientists, 1993	3,945	430,332	30	Total R&D performance, 1993 (millions)	\$533	\$161,427	32
Doctoral engineers, 1993	928	81,293	26	Industry R&D, 1993 (millions)	\$311	\$117,622	33
S&E doctorates awarded, 1995	227	26,482	31	Academic R&D, 1994 (millions)	\$175	\$20,573	31
of which, in engineering	30%	23%		of which, in life sciences	46%	55%	
in life sciences	20%	24%		in engineering	22%	16%	
in psychology	16%	13%		in physical sciences	9%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	157	36,143	34	expenditures, 1993 (millions)	\$1,443	\$163,994	33
S&E graduate students, 1994				Number of SBIR awards, 1990-94	49	18.023	34
in doctorate-granting institutions	4,737	438,694	30	Patents issued to state residents, 1995	472	55,717	26
Population, 1995 (000s)	3,278	262,755	27	Gross state product, 1992 (billions)	\$60.2	\$5,994.1	29
Civilian labor force, 1995 (000s)	1,547	132,281	30	of which, agriculture	3%	2%	
, , ,	,	<u> </u>		manufacturing, mining, construction	24%	23%	
Personal income per capita, 1995	\$18,152	\$22,788	47	transportation, communication, utilities	10%	9%	
, ,				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	15%	18%	
Total expenditures, 1995 (millions)	\$16,086	\$1,326,294	29	services	16%	20%	
R&D obligations, 1994 (millions)	\$141	\$65,654	39	government	16%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Oklahoma by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	141,471	53,850	0	36,364	41,567	8,005	1,685	39
Department of Agriculture	16,702	9,253	0	0	7,414	0	35	28
Department of Commerce	6,423	5,488	0	785	150	0	0	18
Department of Defense	30,727	16,646	0	11,763	2,318	0	0	38
Department of Energy	25,428	1,931	0	20,802	2,695	0	0	24
Dept. of Health & Human Services	25,327	0	0	626	16,520	7,665	516	39
Department of the Interior	2,827	2,620	0	0	172	0	35	41
Department of Transportation	18,090	14,733	0	1,548	710	0	1,099	7
Environmental Protection Agency	4,403	3,179	0	807	417	0	0	18
Nat'l Aeronautics & Space Admin.	875	0	0	33	641	201	0	47
National Science Foundation	10,669	0	0	0	10,530	139	0	35
State rank	39	31	na	38	39	29	39	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

OREGON

Science and Engineering Profile

	Oregon	U.S.	Rank		Oregon	U.S.	Rank
Doctoral scientists, 1993	5,871	430,332	24	Total R&D performance, 1993 (millions)	\$774	\$161,427	29
Doctoral engineers, 1993	789	81,293	30	Industry R&D, 1993 (millions)	\$471	\$117,622	30
S&E doctorates awarded, 1995	301	26,482	25	Academic R&D, 1994 (millions)	\$243	\$20,573	27
of which, in life sciences	35%	24%		of which, in life sciences	59%	55%	
in social sciences	15%	15%		in environmental sciences	13%	7%	
in physical sciences	14%	14%		in physical sciences	9%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	311	36,143	27	expenditures, 1993 (millions)	\$1,868	\$163,994	28
S&E graduate students, 1994				Number of SBIR awards, 1990-94	215	18,023	21
in doctorate-granting institutions	4,421	438,694	31	Patents issued to state residents, 1995	705	55,717	22
Population, 1995 (000s)	3,141	262,755	29	Gross state product, 1992 (billions)	\$62.7	\$5,994.1	28
Civilian labor force, 1995 (000s)	1,650	132,281	28	of which, agriculture	4%	2%	
. ,				manufacturing, mining, construction	22%	23%	
Personal income per capita, 1995	\$21,736	\$22,788	25	transportation, communication, utilities	9%	9%	
				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	18%	18%	
Total expenditures, 1995 (millions)	\$13,756	\$1,326,294	31	services	18%	20%	
R&D obligations, 1994 (millions)	\$279	\$65,654	30	government	12%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Oregon by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	279,164	60,178	0	44,341	132,350	34,824	7,471	30
Department of Agriculture	35,229	22,013	0	29	12,812	214	161	12
Department of Commerce	15,004	9,309	0	3,881	1,742	0	72	12
Department of Defense	38,068	1,366	0	25,936	10,333	433	0	34
Department of Energy	15,021	1,175	0	3,450	9,871	0	525	30
Dept. of Health & Human Services	95,614	0	0	3,137	62,039	29,110	1,328	24
Department of the Interior	22,072	20,905	0	384	683	0	100	8
Department of Transportation	4,378	0	0	38	3,473	0	867	27
Environmental Protection Agency	11,801	5,168	0	4,324	2,064	0	245	11
Nat'l Aeronautics & Space Admin.	14,522	242	0	2,018	3,550	4,539	4,173	24
National Science Foundation	27,455	0	0	1,144	25,783	528	0	22
State rank	30	29	na	33	27	16	6	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

PENNSYLVANIA

Science and Engineering Profile

	Penn.	U.S.	Rank		Penn.	U.S.	Rank
Doctoral scientists, 1993	20,012	430,332	4	Total R&D performance, 1993 (millions)	\$8,278	\$161,427	6
Doctoral engineers, 1993	3,886	81,293	6	Industry R&D, 1993 (millions)	\$6,711	\$117,622	6
S&E doctorates awarded, 1995	1,358	26,482	6	Academic R&D, 1994 (millions)	\$1,085	\$20,573	6
of which, in engineering	30%	23%		of which, in life sciences	55%	55%	
in life sciences	20%	24%		in engineering	20%	16%	
in social sciences	16%	15%		in math & computer sciences	7%	4%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	1,852	36,143	5	expenditures, 1993 (millions)	\$9,672	\$163,994	3
S&E graduate students, 1994				Number of SBIR awards, 1990-94	580	18,023	10
in doctorate-granting institutions	20,096	438,694	7	Patents issued to state residents, 1995	2,645	55,717	7
Population, 1995 (000s)	12,072	262.755	5	Gross state product, 1992 (billions)	\$267.0	\$5,994.1	6
Civilian labor force, 1995 (000s)	5,838	132,281	6	of which, agriculture	1%	2%	
	0,000	102,20		manufacturing, mining, construction	24%	23%	
Personal income per capita, 1995	\$23,279	\$22,788	19	transportation, communication, utilities	9%	9%	
Transmission per capita, 1000	ψ20,2.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	"	wholesale and retail trade	15%	16%	
Federal spending				finance, insurance, real estate	19%	18%	
Total expenditures, 1995 (millions)	\$64,281	\$1,326,294	5	services	21%	20%	
R&D obligations, 1994 (millions)	\$1,981	\$65,654	11	government	10%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Pennsylvania by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	1,980,531	332,027	26,201	721,534	712,513	182,499	5,757	11
Department of Agriculture	40,272	29,696	0	0	10,566	10	0	8
Department of Commerce	4,583	0	600	2,601	486	847	49	20
Department of Defense	867,248	206,939	25,601	443,832	141,717	49,159	0	11
Department of Energy	347,614	66,763	0	240,074	21,322	19,455	0	6
Dept. of Health & Human Services	526,645	12	0	5,544	419,509	101,093	487	5
Department of the Interior	35,801	27,037	0	6,650	2,084	30	0	4
Department of Transportation	13,025	1,580	0	3,467	3,968	262	3,748	11
Environmental Protection Agency	2,671	0	0	265	1,885	0	521	20
Nat'l Aeronautics & Space Admin.	36,292	0	0	17,049	19,170	73	0	18
National Science Foundation	106,380	0	0	2,052	91,806	11,570	952	5
					_	_		
State rank	11	12	17	13	4	5	10	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

RHODE ISLAND

Science and Engineering Profile

	R.I.	U.S.	Rank		R.I.	U.S.	Rank
Doctoral scientists, 1993	1,976	430,332	39	Total R&D performance, 1993 (millions)	\$484	\$161,427	33
Doctoral engineers, 1993	317	81,293	40	Industry R&D, 1993 (millions)	\$176	\$117,622	40
S&E doctorates awarded, 1995	178	26,482	34	Academic R&D, 1994 (millions)	\$102	\$20,573	37
of which, in life sciences	21%	24%		of which, in life sciences	31%	55%	
in engineering	19%	23%		in environmental sciences	27%	7%	
in social sciences	17%	15%		in engineering	14%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	146	36,143	35	expenditures, 1993 (millions)	\$921	\$163,994	38
S&E graduate students, 1994				Number of SBIR awards, 1990-94	59	18,023	30
in doctorate-granting institutions	2,207	438,694	38	Patents issued to state residents, 1995	206	55,717	37
Population, 1995 (000s)	990	262.755	43	Gross state product, 1992 (billions)	\$21.6	\$5,994.1	45
Civilian labor force, 1995 (000s)	485	132,281	43	of which, agriculture	1%	2%	
, , ,		,		manufacturing, mining, construction	23%	23%	
Personal income per capita, 1995	\$23,310	\$22,788	18	transportation, communication, utilities	6%	9%	
				wholesale and retail trade	14%	16%	
Federal spending				finance, insurance, real estate	22%	18%	
Total expenditures, 1995 (millions)	\$5,763	\$1,326,294	42	services	22%	20%	
R&D obligations, 1994 (millions)	\$433	\$65,654	25	government	12%	12%	
				-			

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Rhode Island by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	433,488	238,837	0	116,114	57,866	18,668	2,003	25
Department of Agriculture	2,159	2	0	80	2,038	39	0	51
Department of Commerce	2,710	513	0	405	1,740	0	52	27
Department of Defense	357,060	231,923	0	113,695	11,297	145	0	19
Department of Energy	2,518	0	0	51	2,443	24	0	45
Dept. of Health & Human Services	38,774	0	0	139	20,358	16,872	1,405	32
Department of the Interior	1,700	1,247	0	0	453	0	0	47
Department of Transportation	1,046	402	0	113	0	0	531	44
Environmental Protection Agency	7,247	4,750	0	1,175	1,307	0	15	15
Nat'l Aeronautics & Space Admin.	3,589	0	0	456	2,989	144	0	37
National Science Foundation	16,685	0	0	0	15,241	1,444	0	26
State rank	25	13	na	24	34	21	37	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

SOUTH CAROLINA

Science and Engineering Profile

				S. Carolina	U.S.	Rank
1						
4,106	430,332	29	Total R&D performance, 1993 (millions)	\$713	\$161,427	31
770	81,293	31	Industry R&D, 1993 (millions)	\$495	\$117,622	29
199	26,482	32	Academic R&D, 1994 (millions)	\$197	\$20,573	29
32%	24%		of which, in life sciences	51%	55%	
20%	23%		in engineering	19%	16%	
17%	14%		in environmental sciences	7%	7%	
			Higher education current-fund			
239	36,143	29	expenditures, 1993 (millions)	\$1,996	\$163,994	26
			Number of SBIR awards, 1990-94	7	18,023	47
4,220	438,694	32	Patents issued to state residents, 1995	441	55,717	27
3,673	262,755	26	Gross state product, 1992 (billions)	\$69.8	\$5,994.1	27
1,859	132,281	26	of which, agriculture	1%	2%	
			manufacturing, mining, construction	31%	23%	
\$18,788	\$22,788	41	transportation, communication, utilities	8%	9%	
			wholesale and retail trade	15%	16%	
			finance, insurance, real estate	14%	18%	
\$17,814	\$1,326,294	27	services	14%	20%	
\$199	\$65,654	37	government	16%	12%	
	770 199 32% 20% 17% 239 4,220 3,673 1,859 \$18,788	770 81,293 199 26,482 32% 24% 20% 23% 17% 14% 239 36,143 4,220 438,694 3,673 262,755 1,859 132,281 \$18,788 \$22,788 \$17,814 \$1,326,294	770 81,293 31 199 26,482 32 32% 24% 20% 23% 17% 14% 239 36,143 29 4,220 438,694 32 3,673 262,755 26 1,859 132,281 26 \$18,788 \$22,788 41 \$17,814 \$1,326,294 27	770 81,293 31 Industry R&D, 1993 (millions) 199 26,482 32 Academic R&D, 1994 (millions) 32% 24% of which, in life sciences 20% 23% in engineering 17% 14% Higher education current-fund 239 36,143 29 Number of SBIR awards, 1993 (millions) Number of SBIR awards, 1990-94 Patents issued to state residents, 1995 3,673 262,755 26 1,859 132,281 6 Gross state product, 1992 (billions) of which, agriculture manufacturing, mining, construction transportation, communication, utilities wholesale and retail trade finance, insurance, real estate services	770 81,293 31 Industry R&D, 1993 (millions) \$495 199 26,482 32 Academic R&D, 1994 (millions) \$197 32% 24% 51% 51% 20% 23% 19% 19% 17% 14% 14% 19% 438,694 29 Higher education current-fund expenditures, 1993 (millions) \$1,996 Number of SBIR awards, 1990-94 7 7 Patents issued to state residents, 1995 441 3,673 262,755 26 1,859 132,281 26 \$18,788 \$22,788 41 \$18,788 \$22,788 41 \$17,814 \$1,326,294 27 \$1,859 132,281 26 \$1,859 132,281 26 \$1,859 132,281 26 \$1,859 132,281 26 \$1,859 132,281 26 \$1,859 132,281 26 \$1,859 132,281 26	770 81,293 31 Industry R&D, 1993 (millions) \$495 \$117,622 199 26,482 32 Academic R&D, 1994 (millions) \$197 \$20,573 32% 24% of which, in life sciences 51% 55% 20% 23% in engineering 19% 16% 17% 14% Higher education current-fund expenditures, 1993 (millions) \$1,996 \$163,994 Number of SBIR awards, 1990-94 7 18,023 Patents issued to state residents, 1995 441 55,717 3,673 262,755 26 Gross state product, 1992 (billions) of which, agriculture manufacturing, mining, construction transportation, communication, utilities wholesale and retail trade finance, insurance, real estate finance, insurance, real estate finance, insurance, real estate services 14% 18% \$17,814 \$1,326,294 27 services 14% 20%

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in South Carolina by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	198,537	35,613	59,084	24,594	69,383	6,528	3,335	37
Department of Agriculture	16,131	9,087	0	0	7,044	0	0	31
Department of Commerce	8,848	5,774	0	1,659	1,325	0	90	16
Department of Defense	45,312	18,005	1,901	11,793	7,780	5,833	0	32
Department of Energy	79,044	0	57,183	9,088	12,474	299	0	16
Dept. of Health & Human Services	33,470	50	0	1,420	29,831	150	2,019	35
Department of the Interior	2,827	2,697	0	8	122	0	0	41
Department of Transportation	1,180	0	0	0	140	0	1,040	42
Environmental Protection Agency	521	0	0	0	521	0	0	41
Nat'l Aeronautics & Space Admin.	1,927	0	0	626	928	187	186	40
National Science Foundation	9,277	0	0	0	9,218	59	0	37
State rank	37	39	13	39	31	30	25	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

SOUTH DAKOTA

Science and Engineering Profile

	S. Dakota	U.S.	Rank		S. Dakota	U.S.	Rank
Doctoral scientists, 1993	975	430,332	50	Total R&D performance, 1993 (millions)	\$58	\$161,427	51
Doctoral engineers, 1993	81	81,293	51	Industry R&D, 1993 (millions)	\$22	\$117,622	47
S&E doctorates awarded, 1995	17	26,482	51	Academic R&D, 1994 (millions)	\$22	\$20,573	51
of which, in life sciences	41%	24%		of which, in life sciences	58%	55%	
in psychology	24%	13%		in environmental sciences	17%	7%	
in social sciences	18%	15%		in engineering	13%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	21	36,143	49	expenditures, 1993 (millions)	\$303	\$163,994	50
S&E graduate students, 1994				Number of SBIR awards, 1990-94	2	18,023	51
in doctorate-granting institutions	1,210	438,694	45	Patents issued to state residents, 1995	33	55,717	51
Population, 1995 (000s)	729	262,755	45	Gross state product, 1992 (billions)	\$15.1	\$5,994.1	47
Civilian labor force, 1995 (000s)	382	132,281	45	of which, agriculture	13%	2%	
,				manufacturing, mining, construction	14%	23%	
Personal income per capita, 1995	\$19,506	\$22,788	38	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	17%	16%	
Federal spending				finance, insurance, real estate	22%	18%	
Total expenditures, 1995 (millions)	\$3,829	\$1,326,294	47	services	15%	20%	
R&D obligations, 1994 (millions)	\$26	\$65,654	51	government	13%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in South Dakota by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	26,481	10,979	0	2,710	9,893	1,346	1,553	51
Department of Agriculture	5,754	2,326	0	0	3,428	0	0	45
Department of Commerce	0	0	0	0	0	0	0	na
Department of Defense	601	8	0	40	553	0	0	51
Department of Energy	25	0	0	0	25	0	0	51
Dept. of Health & Human Services	4,658	774	0	255	1,338	1,346	945	47
Department of the Interior	6,138	3,602	0	2,238	298	0	0	27
Department of Transportation	619	0	0	11	0	0	608	49
Environmental Protection Agency	99	0	0	0	99	0	0	46
Nat'l Aeronautics & Space Admin.	5,485	4,269	0	166	1,050	0	0	35
National Science Foundation	3,102	0	0	0	3,102	0	0	50
State rank	51	46	na	50	51	44	41	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

TENNESSEE

Science and Engineering Profile

	Tennessee	U.S.	Rank		Tennessee	U.S.	Rank
Doctoral scientists, 1993	7,145	430,332	20	Total R&D performance, 1993 (millions)	\$1,214	\$161,427	27
Doctoral engineers, 1993	1,382	81,293	17	Industry R&D, 1993 (millions)	\$792	\$117,622	26
S&E doctorates awarded, 1995	336	26,482	24	Academic R&D, 1994 (millions)	\$306	\$20,573	24
of which, in life sciences	28%	24%		of which, in life sciences	58%	55%	
in engineering	21%	23%		in engineering	17%	16%	
in psychology	18%	13%		in physical sciences	7%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	526	36,143	22	expenditures, 1993 (millions)	\$3,002	\$163,994	19
S&E graduate students, 1994				Number of SBIR awards, 1990-94	182	18,023	24
in doctorate-granting institutions	7,366	438,694	20	Patents issued to state residents, 1995	593	55,717	24
Population, 1995 (000s)	5,256	262,755	17	Gross state product, 1992 (billions)	\$108.9	\$5,994.1	20
Civilian labor force, 1995 (000s)	2,712	132,281	19	of which, agriculture	2%	2%	
, ,				manufacturing, mining, construction	28%	23%	
Personal income per capita, 1995	\$20,376	\$22,788	37	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	18%	16%	
Federal spending				finance, insurance, real estate	14%	18%	
Total expenditures, 1995 (millions)	\$26,175	\$1,326,294	17	services	18%	20%	
R&D obligations, 1994 (millions)	\$676	\$65,654	23	government	12%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition} % \begin{subarray}{ll} \end{subarray} % \begin{subarr$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Tennessee by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	675,621	93,026	306,103	80,219	164,428	29,279	2,566	23
Department of Agriculture	10,162	737	0	80	9,340	5	0	39
Department of Commerce	1,161	805	255	0	101	0	0	33
Department of Defense	122,233	80,694	9,964	17,329	14,052	194	0	28
Department of Energy	348,549	1,069	287,838	51,954	7,184	504	0	5
Dept. of Health & Human Services	139,541	726	1,302	1,294	115,458	20,290	471	20
Department of the Interior	3,438	2,784	0	82	572	0	0	37
Department of Transportation	9,512	2,661	3,944	230	582	0	2,095	15
Environmental Protection Agency	1,056	0	0	841	215	0	0	34
Nat'l Aeronautics & Space Admin.	28,528	3,527	2,800	8,147	5,800	8,254	0	19
National Science Foundation	11,441	23	0	262	11,124	32	0	30
State rank	23	25	4	31	24	18	29	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

TEXAS

Science and Engineering Profile

	Texas	U.S.	Rank		Texas	U.S.	Rank
Doctoral scientists, 1993	22,836	430,332	3	Total R&D performance, 1993 (millions)	\$6,966	\$161,427	8
Doctoral engineers, 1993	5,671	81,293	2	Industry R&D, 1993 (millions)	\$4,882	\$117,622	9
S&E doctorates awarded, 1995	1,708	26,482	3	Academic R&D, 1994 (millions)	\$1,466	\$20,573	3
of which, in engineering	27%	23%		of which, in life sciences	59%	55%	
in life sciences	25%	24%		in engineering	17%	16%	
in physical sciences	14%	14%		in physical sciences	9%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	2,128	36,143	4	expenditures, 1993 (millions)	\$8,699	\$163,994	4
S&E graduate students, 1994				Number of SBIR awards, 1990-94	596	18,023	8
in doctorate-granting institutions	27,594	438,694	3	Patents issued to state residents, 1995	3,886	55,717	3
Population, 1995 (000s)	18,724	262,755	2	Gross state product, 1992 (billions)	\$416.9	\$5,994.1	3
Civilian labor force, 1995 (000s)	9,568	132,281	2	of which, agriculture	2%	2%	
, ,				manufacturing, mining, construction	25%	23%	
Personal income per capita, 1995	\$20,654	\$22,788	33	transportation, communication, utilities	11%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	16%	18%	
Total expenditures, 1995 (millions)	\$83,296	\$1,326,294	3	services	18%	20%	
R&D obligations, 1994 (millions)	\$3,658	\$65,654	5	government	12%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Texas by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	3,658,329	564,827	332	2,282,216	635,598	166,564	8,792	5
Department of Agriculture	64,403	45,592	0	140	18,609	0	62	4
Department of Commerce	6,345	2,420	0	2,019	1,589	118	199	19
Department of Defense	1,429,954	143,903	332	1,086,625	87,888	111,206	0	8
Department of Energy	38,831	0	0	10,061	24,875	3,895	0	21
Dept. of Health & Human Services	438,983	78	0	6,933	394,714	34,480	2,778	6
Department of the Interior	7,569	6,608	0	392	464	105	0	22
Department of Transportation	10,347	225	0	3,849	1,630	42	4,601	14
Environmental Protection Agency	14,021	0	0	7,531	5,338	0	1,152	8
Nat'l Aeronautics & Space Admin.	1,575,589	366,001	0	1,163,303	29,916	16,369	0	2
National Science Foundation	72,287	0	0	1,363	70,575	349	0	7
State rank	5	8	18	3	5	6	5	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

UTAH

Science and Engineering Profile

	Utah	U.S.	Rank		Utah	U.S.	Rank
Doctoral scientists, 1993	3,509	430,332	33	Total R&D performance, 1993 (millions)	\$753	\$161,427	30
Doctoral engineers, 1993	809	81,293	29	Industry R&D, 1993 (millions)	\$411	\$117,622	31
S&E doctorates awarded, 1995	279	26,482	28	Academic R&D, 1994 (millions)	\$201	\$20,573	28
of which, in engineering	30%	23%		of which, in life sciences	46%	55%	
in psychology	19%	13%		in engineering	24%	16%	
in physical sciences	17%	14%		in environmental sciences	10%	7%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	219	36,143	31	expenditures, 1993 (millions)	\$1,629	\$163,994	31
S&E graduate students, 1994				Number of SBIR awards, 1990-94	245	18,023	20
in doctorate-granting institutions	4,830	438,694	29	Patents issued to state residents, 1995	508	55,717	25
Population, 1995 (000s)	1,951	262,755	34	Gross state product, 1992 (billions)	\$35.6	\$5,994.1	37
Civilian labor force, 1995 (000s)	971	132,281	34	of which, agriculture	2%	2%	
, ,				manufacturing, mining, construction	23%	23%	
Personal income per capita, 1995	\$18,223	\$22,788	46	transportation, communication, utilities	10%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	15%	18%	
Total expenditures, 1995 (millions)	\$8,526	\$1,326,294	37	services	19%	20%	
R&D obligations, 1994 (millions)	\$326	\$65,654	29	government	15%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Utah by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	325,650	95,844	0	96,878	125,920	5,630	1,378	29
Department of Agriculture	14,142	8,802	0	0	5,337	0	3	35
Department of Commerce	1,716	0	0	1,261	205	0	250	32
Department of Defense	178,524	75,628	0	68,518	34,378	0	0	24
Department of Energy	9,662	0	0	879	4,483	4,300	0	34
Dept. of Health & Human Services	62,116	0	0	3,415	56,905	1,330	466	28
Department of the Interior	12,779	11,414	0	387	978	0	0	15
Department of Transportation	14,452	0	0	12,858	935	0	659	10
Environmental Protection Agency	0	0	0	0	0	0	0	na
Nat'l Aeronautics & Space Admin.	13,448	0	0	8,986	4,462	0	0	26
National Science Foundation	18,811	0	0	574	18,237	0	0	25
State rank	29	24	na	28	28	34	43	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

VERMONT

Science and Engineering Profile

	Vermont	U.S.	Rank		Vermont	U.S.	Rank
Doctoral scientists, 1993	1,436	430,332	46	Total R&D performance, 1993 (millions)	\$343	\$161,427	40
Doctoral engineers, 1993	200	81,293	45	Industry R&D, 1993 (millions)	\$284	\$117,622	36
							l l
S&E doctorates awarded, 1995	44	26,482	48	Academic R&D, 1994 (millions)	\$52	\$20,573	47
of which, in life sciences	45%	24%		of which, in life sciences	90%	55%	
in psychology	32%	13%		in engineering	4%	16%	
in physical sciences	16%	14%		in physical sciences	2%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	90	36,143	38	expenditures, 1993 (millions)	\$599	\$163,994	42
S&E graduate students, 1994				Number of SBIR awards, 1990-94	47	18.023	36
in doctorate-granting institutions	681	438,694	50	Patents issued to state residents, 1995	148	55,717	39
in doctorate granting institutions	001	450,054		r aterns issued to state residents, 1999	140	00,717	
Population, 1995 (000s)	585	262,755	49	Gross state product, 1992 (billions)	\$11.8	\$5,994.1	51
Civilian labor force, 1995 (000s)	320	132,281	48	of which, agriculture	3%	2%	
				manufacturing, mining, construction	23%	23%	
Personal income per capita, 1995	\$20,927	\$22,788	32	transportation, communication, utilities	7%	9%	
				wholesale and retail trade	16%	16%	
Federal spending				finance, insurance, real estate	18%	18%	
Total expenditures, 1995 (millions)	\$2,671	\$1,326,294	50	services	20%	20%	
R&D obligations, 1994 (millions)	\$48	\$65,654	49	government	12%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Vermont by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	47,880	3,379	0	6,955	33,727	3,274	545	49
Department of Agriculture	5,625	1,696	0	0	3,929	0	0	47
Department of Commerce	18	0	0	0	18	0	0	47
Department of Defense	6,260	49	0	5,705	506	0	0	46
Department of Energy	544	0	0	0	544	0	0	49
Dept. of Health & Human Services	29,267	0	0	760	25,058	3,274	175	37
Department of the Interior	1,789	1,634	0	55	100	0	0	46
Department of Transportation	370	0	0	0	0	0	370	51
Environmental Protection Agency	204	0	0	0	204	0	0	44
Nat'l Aeronautics & Space Admin.	347	0	0	204	143	0	0	50
National Science Foundation	3,456	0	0	231	3,225	0	0	49
State rank	49	51	na	46	42	40	50	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

VIRGINIA

Science and Engineering Profile

	Virginia	U.S.	Rank		Virginia	U.S.	Rank
Doctoral scientists, 1993	12,802	430,332	10	Total R&D performance, 1993 (millions)	\$2,939	\$161,427	13
Doctoral engineers, 1993	2,630	81,293	11	Industry R&D, 1993 (millions)	\$1,087	\$117,622	21
S&E doctorates awarded, 1995	663	26,482	12	Academic R&D, 1994 (millions)	\$436	\$20,573	15
of which, in engineering	28%	23%		of which, in life sciences	51%	55%	
in life sciences	21%	24%		in engineering	18%	16%	
in social sciences	13%	15%		in environmental sciences	13%	7%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	654	36,143	16	expenditures, 1993 (millions)	\$3,822	\$163,994	11
S&E graduate students, 1994				Number of SBIR awards, 1990-94	960	18,023	3
in doctorate-granting institutions	12,353	438,694	10	Patents issued to state residents, 1995	822	55,717	21
Population, 1995 (000s)	6,618	262.755	12	Gross state product, 1992 (billions)	\$153.8	\$5,994.1	12
Civilian labor force, 1995 (000s)	3,496	132,281	12	of which, agriculture	1%	2%	
, , ,	,	,		manufacturing, mining, construction	21%	23%	
Personal income per capita, 1995	\$23,597	\$22,788	15	transportation, communication, utilities	9%	9%	
, , ,				wholesale and retail trade	14%	16%	
Federal spending				finance, insurance, real estate	16%	18%	
Total expenditures, 1995 (millions)	\$51,305	\$1,326,294	6	services	19%	20%	
R&D obligations, 1994 (millions)	\$3,730	\$65,654	4	government	20%	12%	

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Virginia by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	3,729,683	1,381,817	215,819	1,875,922	195,799	56,060	4,266	4
Department of Agriculture	11,419	1,549	0	50	8,854	966	0	37
Department of Commerce	32,506	8,254	0	20,055	3,915	149	133	8
Department of Defense	2,635,027	970,955	158,590	1,453,218	27,616	24,648	0	3
Department of Energy	76,133	12,619	43,809	10,510	9,115	80	0	17
Dept. of Health & Human Services	149,767	107	0	42,995	96,438	8,857	1,370	19
Department of the Interior	56,036	43,916	0	10,941	1,174	5	0	1
Department of Transportation	52,670	8,043	13,327	28,247	1,723	0	1,330	3
Environmental Protection Agency	37,979	0	0	35,782	764	0	1,433	4
Nat'l Aeronautics & Space Admin.	635,300	333,541	0	270,723	19,487	11,549	0	5
National Science Foundation	42,846	2,833	93	3,401	26,713	9,806	0	17
State rank	4	4	6	6	19	11	17	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

WASHINGTON

Science and Engineering Profile

	Washington	U.S.	Rank		Washington	U.S.	Rank
Doctoral scientists, 1993	10,216	430,332	15	Total R&D performance, 1993 (millions)	\$5,422	\$161,427	11
Doctoral engineers, 1993	1,848	81,293	13	Industry R&D, 1993 (millions)	\$4,689	\$117,622	10
S&E doctorates awarded, 1995	466	26,482	19	Academic R&D, 1994 (millions)	\$438	\$20,573	14
of which, in life sciences	30%	24%		of which, in life sciences	63%	55%	
in engineering	22%	23%		in environmental sciences	13%	7%	
in social sciences	14%	15%		in engineering	7%	16%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	992	36,143	11	expenditures, 1993 (millions)	\$2,922	\$163,994	20
S&E graduate students, 1994				Number of SBIR awards, 1990-94	357	18,023	14
in doctorate-granting institutions	6,042	438,694	24	Patents issued to state residents, 1995	1,034	55,717	17
Population, 1995 (000s)	5,431	262,755	15	Gross state product, 1992 (billions)	\$127.6	\$5,994.1	14
Civilian labor force, 1995 (000s)	2,805	132,281	17	of which, agriculture	3%	2%	
,				manufacturing, mining, construction	21%	23%	
Personal income per capita, 1995	\$23,639	\$22,788	14	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	18%	16%	
Federal spending				finance, insurance, real estate	17%	18%	
Total expenditures, 1995 (millions)	\$28,899	\$1,326,294	16	services	19%	20%	
R&D obligations, 1994 (millions)	\$950	\$65,654	18	government	14%	12%	

Rankings and totals are based on data for the 50 States and D.C. Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Washington by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	950,186	149,445	144,292	252,012	306,621	91,598	6,218	18
Department of Agriculture	35,783	18,915	0	188	16,479	131	70	11
Department of Commerce	59,818	54,990	0	2,086	2,610	0	132	3
Department of Defense	274,002	47,480	3,090	193,005	25,449	4,978	0	21
Department of Energy	167,743	7,532	133,609	8,841	17,345	116	300	10
Dept. of Health & Human Services	290,859	19	7,593	6,333	189,461	83,256	4,197	8
Department of the Interior	22,731	19,643	0	736	2,307	45	0	7
Department of Transportation	3,110	0	0	1,176	438	40	1,456	31
Environmental Protection Agency	858	0	0	0	795	0	63	35
Nat'l Aeronautics & Space Admin.	48,929	866	0	38,431	9,257	375	0	13
National Science Foundation	46,353	0	0	1,216	42,480	2,657	0	13
State rank	18	18	9	19	11	8	7	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

WEST VIRGINIA

Science and Engineering Profile

	W. Virginia	U.S.	Rank		W. Virginia	U.S.	Rank
Doctoral scientists, 1993	1,546	430,332	45	Total R&D performance, 1993 (millions)	\$280	\$161,427	44
Doctoral engineers, 1993	372	81,293	37	Industry R&D, 1993 (millions)	\$100	\$117,622	43
S&E doctorates awarded, 1995	78	26,482	41	Academic R&D, 1994 (millions)	\$59	\$20,573	43
of which, in engineering	35%	23%		of which, in life sciences	47%	55%	
in life sciences	27%	24%		in engineering	22%	16%	
in physical sciences	15%	14%		in environmental sciences	12%	7%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	31	36,143	47	expenditures, 1993 (millions)	\$739	\$163,994	40
S&E graduate students, 1994				Number of SBIR awards, 1990-94	4	18,023	48
in doctorate-granting institutions	2,047	438,694	39	Patents issued to state residents, 1995	134	55,717	41
Population, 1995 (000s)	1,828	262,755	35	Gross state product, 1992 (billions)	\$30.7	\$5,994.1	40
Civilian labor force, 1995 (000s)	790	132,281	37	of which, agriculture	1%	2%	
				manufacturing, mining, construction	30%	23%	
Personal income per capita, 1995	\$17,915	\$22,788	49	transportation, communication, utilities	13%	9%	
				wholesale and retail trade	14%	16%	
Federal spending				finance, insurance, real estate	14%	18%	
Total expenditures, 1995 (millions)	\$10,001	\$1,326,294	36	services	15%	20%	
R&D obligations, 1994 (millions)	\$213	\$65,654	35	government	12%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in West Virginia by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	212,864	95,891	29,218	43,555	31,741	10,099	2,360	35
Department of Agriculture	20,189	15,104	0	0	3,783	1,302	0	24
Department of Commerce	0	0	0	0	0	0	0	na
Department of Defense	14,528	1,364	0	7,524	1,431	4,209	0	43
Department of Energy	93,528	62,063	0	29,538	1,927	0	0	13
Dept. of Health & Human Services	21,639	9,400	0	1,790	7,522	1,362	1,565	42
Department of the Interior	8,952	7,460	0	24	1,468	0	0	20
Department of Transportation	2,345	0	0	700	850	0	795	34
Environmental Protection Agency	308	0	0	308	0	0	0	43
Nat'l Aeronautics & Space Admin.	19,034	500	0	3,671	11,682	3,181	0	23
National Science Foundation	32,341	0	29,218	0	3,078	45	0	20
State rank	35	23	14	34	43	27	32	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

WISCONSIN

Science and Engineering Profile

	Wisconsin	U.S.	Rank		Wisconsin	U.S.	Rank
Doctoral scientists, 1993	7,029	430,332	22	Total R&D performance, 1993 (millions)	\$1,851	\$161,427	22
Doctoral engineers, 1993	936	81,293	25	Industry R&D, 1993 (millions)	\$1,343	\$117,622	19
S&E doctorates awarded, 1995	612	26,482	14	Academic R&D, 1994 (millions)	\$467	\$20,573	13
of which, in life sciences	28%	24%		of which, in life sciences	59%	55%	
in engineering	21%	23%		in engineering	13%	16%	
in physical sciences	17%	14%		in physical sciences	9%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	648	36,143	17	expenditures, 1993 (millions)	\$3,429	\$163,994	16
S&E graduate students, 1994				Number of SBIR awards, 1990-94	130	18,023	26
in doctorate-granting institutions	8,942	438,694	17	Patents issued to state residents, 1995	1,209	55,717	13
Population, 1995 (000s)	5.123	262,755	18	Gross state product, 1992 (billions)	\$109.5	\$5,994.1	19
Civilian labor force, 1995 (000s)	2,846	132,281	15	of which, agriculture	3%	2%	
, , ,				manufacturing, mining, construction	31%	23%	
Personal income per capita, 1995	\$21,839	\$22,788	23	transportation, communication, utilities	8%	9%	
				wholesale and retail trade	15%	16%	
Federal spending				finance, insurance, real estate	17%	18%	
Total expenditures, 1995 (millions)	\$19,815	\$1,326,294	24	services	16%	20%	
R&D obligations, 1994 (millions)	\$350	\$65,654	27	government	11%	12%	
				-			

Rankings and totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Wisconsin by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	349,627	40,576	0	37,116	252,386	16,010	3,539	27
Department of Agriculture	37,024	25,257	0	105	11,628	0	34	10
Department of Commerce	2,177	625	0	0	1,502	0	50	30
Department of Defense	39,923	137	0	9,968	21,995	7,823	0	33
Department of Energy	21,328	120	0	0	21,208	0	0	25
Dept. of Health & Human Services	152,319	0	0	1,866	140,333	8,133	1,987	18
Department of the Interior	14,505	13,940	0	150	415	0	0	14
Department of Transportation	3,506	497	0	1,493	123	0	1,393	29
Environmental Protection Agency	1,748	0	0	332	1,416	0	0	26
Nat'l Aeronautics & Space Admin.	37,090	0	0	23,202	13,834	54	0	17
National Science Foundation	40,007	0	0	0	39,932	0	75	18
State rank	27	37	na	36	13	24	24	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

WYOMING

Science and Engineering Profile

	Wyoming	U.S.	Rank		Wyoming	U.S.	Rank
Doctoral scientists, 1993	716	430,332	51	Total R&D performance, 1993 (millions)	\$63	\$161,427	50
Doctoral engineers, 1993	102	81,293	49	Industry R&D, 1993 (millions)	\$15	\$117,622	48
S&E doctorates awarded, 1995	50	26,482	46	Academic R&D, 1994 (millions)	\$34	\$20,573	49
of which, in life sciences	34%	24%		of which, in life sciences	50%	55%	
in engineering	22%	23%		in environmental sciences	23%	7%	
in physical sciences	20%	14%		in physical sciences	8%	10%	
S&E postdoctorates, 1994				Higher education current-fund			
in doctorate-granting institutions	37	36,143	46	expenditures, 1993 (millions)	\$270	\$163,994	51
S&E graduate students, 1994				Number of SBIR awards, 1990-94	3	18,023	49
in doctorate-granting institutions	992	438,694	48	Patents issued to state residents, 1995	49	55,717	49
Population, 1995 (000s)	480	262,755	51	Gross state product, 1992 (billions)	\$13.2	\$5,994.1	49
Civilian labor force, 1995 (000s)	256	132,281	51	of which, agriculture	4%	2%	
				manufacturing, mining, construction	35%	23%	
Personal income per capita, 1995	\$21,321	\$22,788	28	transportation, communication, utilities	17%	9%	
				wholesale and retail trade	11%	16%	
Federal spending				finance, insurance, real estate	12%	18%	
Total expenditures, 1995 (millions)	\$2,506	\$1,326,294	51	services	9%	20%	
R&D obligations, 1994 (millions)	\$37	\$65,654	50	government	13%	12%	

Rankings and totals are based on data for the 50 States and D.C. $\label{eq:decomposition}$

Data on S&E postdoctorates and S&E graduate students include health fields.

Federal Obligations for Research and Development in Wyoming by Agency and Performer: Fiscal Year 1994

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
Total, all agencies	36,576	8,366	0	9,754	12,535	5,036	885	50
Department of Agriculture	6,954	4,390	0	0	2,550	14	0	42
Department of Commerce	0	0	0	0	0	0	0	na
Department of Defense	2,336	4	0	0	2,332	0	0	48
Department of Energy	9,866	0	0	4,878	183	4,805	0	33
Dept. of Health & Human Services	1,192	0	0	0	670	200	322	51
Department of the Interior	4,384	3,972	0	0	412	0	0	32
Department of Transportation	5,832	0	0	4,876	376	17	563	20
Environmental Protection Agency	40	0	0	0	40	0	0	48
Nat'l Aeronautics & Space Admin.	960	0	0	0	960	0	0	45
National Science Foundation	5,012	0	0	0	5,012	0	0	46
State rank	50	48	na	44	50	35	48	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

Puerto Rico

Science and Engineering Profile

	Puerto Rico	U.S.		Puerto Rico	U.S.
Doctoral scientists, 1993	787	430,332	Total R&D performance, 1993	N/A	\$161,427
Doctoral engineers, 1993	146	81,293	(millions) Industry R&D, 1993 (millions)	N/A	\$117,622
S&E doctorates awarded, 1995	33	26,482	Academic R&D, 1994 (millions)	\$51	\$20,573
of which, in psychology	82%	13%	of which, in life sciences	76%	55%
in physcial sciences	18%	14%	in physical sciences	7%	10%
in other S&E fields	0%	N/A	in engineering	6%	16%
S&E postdoctorates, 1994			Higher education current-fund		
in doctorate-granting institutions	15	36,143	expenditures, 1993 (millions)	\$843	\$163,994
S&E graduate students, 1994			Number of SBIR awards, 1990-94	1	18,023
in doctorate-granting institutions	2,786	438,694	Patents issued to state residents, 1995	20	55,717
Population, 1995 (000s)	3,703	262,755	Gross state product, 1992 (billions)	\$34.6	\$5,994.1
Civilian labor force, 1995 (000s)	1,245	132,281	of which, agriculture	1%	2%
			manufacturing, mining, construction	43%	23%
Personal income per capita, 1995	\$7,296	\$22,788	transportation, communication,		9%
			wholesale and retail trade		16%
Federal spending			finance, insurance, real estate	13%	18%
Total expenditures 1995 (millions)	\$9,939	\$1,326,292	services	10%	20%
R&D obligations 1994 (millions)	\$51	\$65,654	government	11%	12%
LLC totals are based on data for the EO	10.0				

U.S. totals are based on data for the 50 States and D.C.

Data on S&E postdoctorates and S&E graduate students include health fields. The data source for Puerto Rico's population, personal income per capita, number of SBIR awards, and gross state product is as follows: *Economic Report to the Governor*, Puerto Rico Planning Board, San Juan, Puerto Rico.

N/A = not available

Federal Obligations for Research and Development in Puerto Rico by Agency and Performer: Fiscal Year 1994

(Thousands of dollars)

	Total	Federal Intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government
Total, all agencies	50,502	7,216	10,035	0	30,616	100	2,535
Department of Agriculture	9,608	5,277	0	0	4,331	0	C
Department of Commerce	446	0	0	0	280	0	166
Department of Defense	1,393	0	0	0	1,393	0	(
Department of Energy	68	0	0	0	68	0	(
Dept. of Health & Human Services	21,632	0	0	0	19,561	100	1,97
Department of the Interior	2,039	1,939	0	0	100	0	
Department of Transportation	551	0	0	0	153	0	398
Environmental Protection Agency	395	0	0	0	395	0	(
Nat'l Aeronautics & Space Admin.	0	0	0	0	0	0	(
National Science Foundation	14,370	0	10,035	0	4,335	0	(

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research